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DUBLIN REVISITED

FOR the third time in 16 years the Architects' Conference has been held in Dublin and triumphantly concluded. Nearly 500 architects and their wives, over half of them journeying from Britain, came together on Wednesday of last week—under the invigorating presidency of Sir Lancelot Keay—to form a gathering which has done much to clarify thought on various aspects of architectural design and more still to tighten the bonds of respect and friendship between the architects of Ireland and of Great Britain.

It is not in dispute that some of those visiting Ireland for the first time may not have beeen insensible of the opportunity of shaking off the grey dust of austerity even for a few days, but it is quite certain that no more than a few hours had passed before all had succumbed to the charm of Dublin—its streets and buildings, its colour under the June sunshine and the natural kindness of its people, from the Lord Mayor to the newspaper boy on the corner of Grafton-street. Some few of the visitors, indeed, later on temporarily succumbed to the abundant fare that was everywhere provided, but even they, it seems, counted Paradise well lost!

The programme was admirably balanced between work and play. Inevitably and properly, the scale was tipped heavily in favour of the latter, but members had the opportunity of hearing two excellent papers on important aspects of design affecting our life to-day—buildings for health and for education. The former paper, prepared by Mr. Murray Easton and Mr. S. E. T. Cusdin and read by the latter, was a penetrating analysis of the great hospitals at Clichy, Colmar and Basle, from which some useful deductions were drawn. Subsequent discussion concentrated on the seemingly universal trend towards very large-scale hospitals of institutional character, and speakers in the discussion were unanimous in pleading for the re-establishment of the patient as the basic unit in design. The battle is one between the provision of highly costly equipment and the patient's feeling (as Mr. Kenyon aptly put it) that the modern hospital is often a logical progress from the receiving room to the mortuary. This paper, as is Mr. R. S. Wilshere's address on "Modern School Buildings," is reported elsewhere in this issue, and will repay the closest study.

Mr. Wilshere, Belfast City Architect, who deputised at short notice for Mr. W. T. Benslyn, also stressed the need for more consideration of the individual in the design of schools. The repetition of the standard school building, whatever the merit of the layout as it appeared on paper, was to be avoided if a principal aim of modern education, to develop the individuality of the pupil, was to be achieved.

The highlight of the Conference undoubtedly was the President's fighting lead given in his speech at the banquet. In a reference to the Bankside scheme, Sir Lancelot gave a solemn warning of the lesson which "this first example of dictatorial powers prevailing against the expressed will of democracy" held for all. "There is a very real danger that individual expression will be suppressed by bureaucratic dictation," added the President, "and so the architecture of the world of to-morrow may in consequence compare very poorly with that of the past." The President might well have included planning with architecture, for in subsequent informal discussion one heard freely expressed the view that the Minister of Town and Country Planning has struck a heavy blow for chaos as against order. Planning, which requires for its success the rare quality of forethought and the rarer quality of sacrifice, is still far from being an accepted tradition in Great Britain. The inference from Bankside is scarcely to be avoided that a town plan is now hardly worth the paper it is drawn on because its conclusions may at any time be negatived by Government decision. Thus into the planning scales—already heavily weighted against seemliness and order by the inertness of uninformed public opinion and the active opposition of the unscrupulous and selfish—is thrown Mr. Silkin. The President has done well to bring this aspect of a deplorable affair so courageously into the open; we shall hope that he will continue to make the point.

It is perhaps significant that the theme for preserving the freedom of the individual should be found arising out of all three addresses referred to above. It may well be something in the Dublin air which engendered it, for certainly in that city there comes an uplifting of the spirit. No doubt part of the feeling was due to the buoyancy of our hosts, who are not only busy at the drawing-board but are actually seeing some of their work go up, though this is seldom in Dublin itself. Not that building is easy; materials are scarce, particularly cement, steel, timber, sanitary ware and ironmongery. Here the common factor—shortage of coal—is again responsible. Some part of their needs are supplied by importing from Scandinavia, the Continent and U.S.A. In one way or another their problems are resolved, and Dublin is likely to gain a store of new architecture, much of it of quality. Opportunities abound for architectural assistants—particularly those with strong digestions!

Elsewhere in this issue is recorded the lighter side of the Conference, the organisation of which was as excellent as the kindnesses of our Irish hosts unforgettable. Of the many things which the Conference has brought about, none may be of more true and lasting value than the conviction that the differences between our countries may be lifted outside the political arena and a true understanding with Ireland brought about through the arts. And so, to all Irish architects and on behalf of their guests from Great Britain, we say sincerely: "Thank you for a memorable stay, the friendships made and renewed, and may our next meeting be soon."

NOTES AND NEWS

Lightning "Gallup."

How fares the cause of architecture with the people in these days? During the week-end we took it upon ourselves to conduct a type of minute, verbal Gallup Poll, and inquired of three types of people just what kind of house they would choose to live in were they given the chance.

The first victim, a country thatcher (who had presumably never heard of Mies van Der Rohe), was all for comfort. The type of roof hardly mattered, but he insisted upon a standard of privacy and warmth in the winter; in summer (if any), if the house could be adequately ventilated, he hardly saw any point in very large windows, as on a fine day he preferred to be out of the house. The second type was a "pub." owner. He again stressed comfort, and when asked what exactly he meant by comfort he said a big fireplace for log burning, deep armchairs and no draughts. (We might add the day of the questionnaire was brilliantly sunny and hot, so no association of ideas can be attached to this insistence upon warmth.) Asked whether he had any preference as to form, type, etc., he said he preferred something in the English tradition. Lastly, a local schoolmaster. After becoming positively vituperative on the state of his particular school, he thought that if a house was well planned and well proportioned, and fitted unobtrusively into its particular landscape, it would be the house for him. He added that at the moment he was living in a converted blacksmith's shop.

What is the lesson to be learnt from the views of this very small section of the community? Possibly that they, with so many others, want something permanent and solid, and following preferably in the English tradition of house design. Innovations they were certainly not averse to, but they had to be introduced in such a way as not to cause a violent disharmony with a valued tradition. This all seems fair enough, and after leaving these people we had a sneaking feeling that they, with their architecturally untrained outlook, were hitting the nail pretty neatly on the head.

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London Brewers' Planning Exhibition.

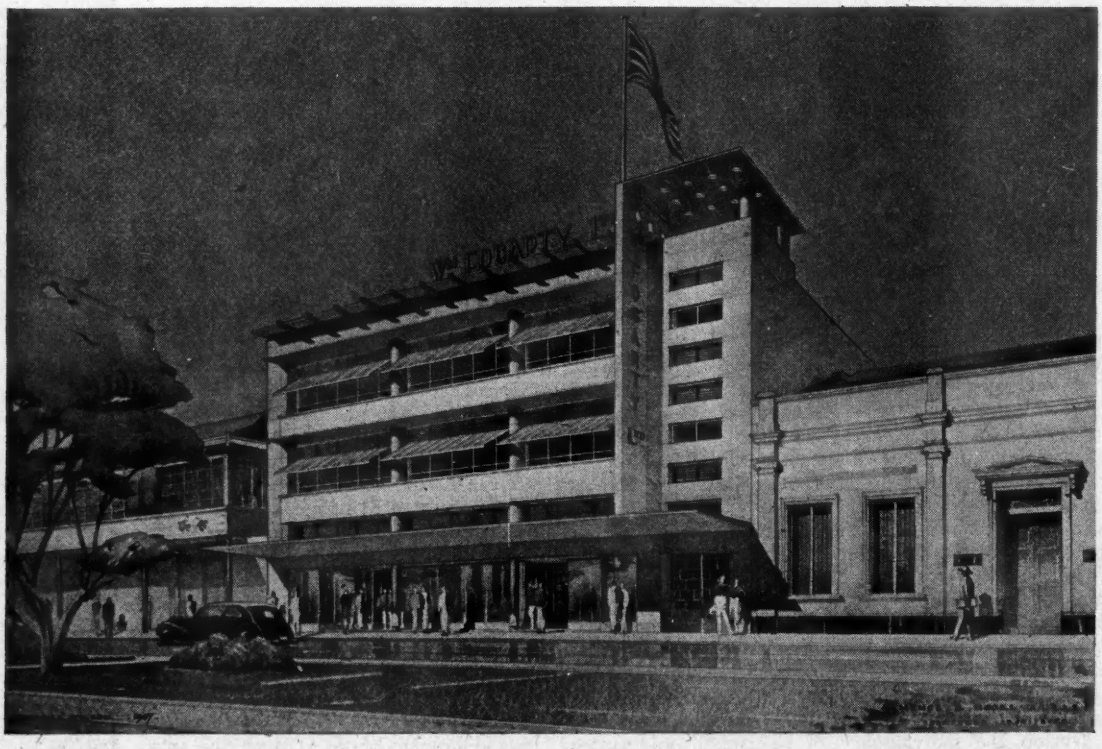
MR. LEWIS SILKIN, Minister for Town and Country Planning, opened the above exhibition at the Housing Centre on Monday. He said he saw no reason why we should not return to the practice of Elizabethan days, when customers could see plays performed and indulge in traditional dancing.

The exhibition deals with the licensed house and its human importance in town planning. Much information is set out in a booklet, having illustrations specially designed to help local authorities and others concerned in town planning. The exhibition also draws attention to the main factors involved in planning licensed accommodation for a well-balanced community. The London Brewers' Council offers its full co-operation to anyone in need of information.

Summer Tour to Sweden.

OVER fifty members of the Town and Country Planning Association are sailing in the Swedish Lloyd M.V. *Saga* on June 21 for a 14-day planning tour of Sweden and Denmark. The party will examine the developments of the last few years in Danish and Swedish town planning and housing, and a strenuous 14-day programme will lie ahead of the members when they embark. The tour will be under the leadership of Mr. F. J. Osborn, chairman of the Association's Executive Committee.

The two-day stay in Copenhagen will be busily occupied by lectures and exhibitions and visits to the most interesting new housing and planning developments. At Stockholm, where the party is spending four days, a similar programme has been arranged, and, in addition, it is



DEPARTMENTAL STORE, PORT OF SPAIN, TRINIDAD. This building, which will be started at the end of July, will be of reinforced concrete construction and the main elevation will be treated in cream and green cement. The consulting and steel engineers are Messrs. L. G. Taffs and Partners, of London, and the quantity surveyor is Mr. Leonard Voisey, of Birmingham, the architects being Messrs. Mence & Moore, A. & L.R.I.B.A.

hoped there will be visits to the famous open-air theatre and a boat tour of the archipelago.

After two days spent in touring Sandviken, Sigtuna, Gavle and the ancient capital of Gamla Upsala, the party will return by train to Gothenburg, the starting point of the tour, and arrive back in London on July 5.

Design Centres.

"CENTRES" of one kind or another for various branches and sections of industry have markedly increased in the last decade. Now the Council of Industrial Design, Tilbury House, Petty France, S.W., has issued a new booklet entitled "What is a Design Centre?" A foreword explains that this term covers an organisation set up by an industry with the assistance of the Government to render the industry as a whole and the firms in it certain services in the field of design which will help them to keep abreast of progress, improve the quality of their products, and increase their competitive power at home and abroad.

The booklet also discusses other functions of a Design Centre such as relations with designers, training, library and information services, research and publicity.

"Replanning Britain" Exhibition, Prague.

THE British Council exhibition, "Replanning Britain," which has recently been shown to more than 47,000 visitors in three centres in Turkey, has been moved to Czechoslovakia, where it opened in Prague on June 18 for about four weeks. The exhibition is being held in the hall belonging to Umelecka Beseda, the Czech Artists' Organisation, and has the support of the B.A.P.S. (Blok Architektonickych Pokrokovych Spolku), the central organisation of Czechoslovak Architects.

Mr. G. Grey Wornum, F.R.I.B.A., is in Prague and will give lectures for the British Council in Prague, Brno and Bratislava.

The exhibition, which was assembled by the British Council with the assistance of a special committee set up by the R.I.B.A., gives a general impression, by means of screens mounted with photographs and plans, of the work that has been done during the past few years in Great Britain.

New Towns in N.W. England.

FOUR possible sites for new towns for Manchester are referred to in a letter sent by the Minister of Town and Country Planning, Mr. Lewis Silkin, M.P., to local authorities. These sites are: (*a*) Knutsford-Ollerton (in place of Knutsford-Mobberley); (*b*) in the neighbourhood of Eccleston, Lancs; (*c*) in the Carnforth-Garstang-Inglewhite area, Lancs; and (*d*) Crowton, near Northwich, Cheshire.

Mr. Silkin also refers to the possibility of expanding existing settlements to meet the Manchester overspill problem.

London Victory Club.

A FIVE-STOREY building at 73-79, Seymour-street, near Marble Arch, has been acquired as premises for the Victory (Ex-Services) Club, and work is now in progress on reconditioning and furnishing, so that the club can open in the early autumn. The club will fulfil an urgent need in the centre of London where ex-Servicemen and women can find accommodation and food at reasonable prices. The maximum annual subscription will be only ten shillings.

The opportunity exists to purchase an adjoining vacant site, on which to build much-needed extensions, including accommodation for married members, and to help towards the cost a strong appeal to all workers in Greater London to contribute a "bob a nob" was launched last week at a meeting held at the Waldorf Hotel, Aldwych. Field-Marshal Sir Philip Chetwode and Field-Marshal Lord Wavell explained the dire need for such a centre in London, and trade union representatives pledged the wholehearted support of their organisations in the appeal.

As was mentioned at the meeting, here is a worthy and splendid chance to say "Thank you" to the men and women of the Forces and to contribute towards a memorial to those who did not return.

Mr. C. J. MOLE, Director-General of the Ministry of Works, who received a knighthood in the Birthday Honours.

Professional Announcements.

MESSRS. MENCE AND MOORE, chartered architects, are opening an office in Port of Spain, Trinidad, and will be pleased to receive trade catalogues at P.O. Box 312, Port of Spain.

MESSRS. T. M. DEACON, SON AND KNIGHT, chartered quantity surveyors, of 6, Drapers-gardens, Throgmorton-avenue, London, E.C.2, have taken into partnership MR. ALBERT W. GRANGER, P.A.S.I. The name of the firm will remain unchanged.

MR. SYDNEY R. DRAY, L.M.I.A.A., A.I.A.S., M.Inst.R.A., has opened an office at 45, Porchester-terrace, London, W.2, and will be glad to receive trade catalogues.

COMING EVENTS

Monday, June 23.

INSTITUTION OF HEATING AND VENTILATING ENGINEERS. Summer Meeting. Grand Hotel, Eastbourne. 5 p.m. Continuing until June 25.

Tuesday, June 24.

NATIONAL FEDERATION OF BUILDING TRADES EMPLOYERS (South Western Federation). Half-yearly meeting. Bath.

HOUSING CENTRE. Miss Margaret Leona on "Flashlights of Hull." 13, Suffolk-street, S.W.1. 1.15 p.m.

ROYAL INSTITUTE OF BRITISH ARCHITECTS. General Meeting. Announcement of Council election results. 66, Portland-place, W.1. 6 p.m.

Wednesday, June 25.

LONDON MASTER BUILDERS' ASSOCIATION (South Western Area). Dinner and General Meeting. Wimbledon Hill Hotel, Wimbledon. 7 p.m.

THE INSTITUTE OF WELDING. Annual Dinner. Grosvenor House, Park-lane, W.1. 7.15 p.m.

ECCLESIOLOGICAL SOCIETY. Mr. Arthur J. Mason, F.R.S.A., on "Rochester." Archbishop Davidson Institute, Lambeth-road, S.E.1. 7.30 p.m.

Thursday, June 26.

PHYSICAL SOCIETY (Acoustics Group). Summer Symposium on Sound Absorption and Reverberation. Royal Institute of British Architects, 66, Portland-place, W.1. 10 p.m.

Friday, June 27.

ARCHITECTS' REGISTRATION COUNCIL. Meeting of Council. 66, Portland-place, W.1.

Saturday, June 28.

INSTITUTE OF QUANTITY SURVEYORS. Annual General Meeting. Caxton Hall, Caxton-street, Westminster, London, S.W.1. 2.30 p.m.

BIRTHDAY HONOURS

THE honours list issued on the occasion of the King's birthday last week included the following names well known in the architectural profession and building trade, to whom we offer cordial congratulations:

KNIGHTS BACHELOR: Mr. Ralph Freeman, partner in Freeman, Fox and Partners, consulting civil engineers; Mr. Charles Johns Mole, Director-General of Works, Ministry of Works.

COMPANIONS OF HONOUR: Mr. James Bone, lately London Editor of the *Manchester Guardian*; Mr. John William Robertson Scott, author, founder and lately Editor of the *Countryman*.

C.M.G.: Mr. F. W. Smith, for services as Director-General of Building Materials, Ministry of Works.

C.B.E.: Mr. R. A. Barker, assistant secretary, Ministry of Works; Mr. S. L. G. Beaufoy, assistant secretary, Ministry of Town and Country Planning; Mr. W. N. Booth, Chief Mechanical Engineer and Superintendent of Building Works, R.O. Factories, Woolwich; Mr. O. F. Brown, assistant secretary, Department of Scientific and Industrial Research; Mr. F. Dobson, sculptor; Mr. H. M. Fairweather, for services to building construction; Mr. L. W. Farrow, chairman, National Brick Advisory Council; Mr. R. Nicholas, City Surveyor and Engineer, Manchester; Mr. F. Wolstencroft, General Secretary, Amalgamated Society of Woodworkers; Mr. A. J. D. Woods, Assistant Secretary, War Damage Commission.

O.B.E.: Mr. W. T. Fraser, Assistant Chief Architect, Ministry of Works; Mr. C. T. Fulcher, Borough Surveyor, Shoreditch; Mr. H. Halliday, Director, National Federation of Clay Industries; Mr. V. L. Harkness, Principal Housing Officer, North Midland Region, Ministry of Health; Mr. G. Smith, Superintendent Engineer, Ministry of Works; Mr. S. P. Taylor, architect, Ministry of Works; Coun. F. L. Wallis, vice-chairman, Ministry of Works National Consultative Council; Mr. H. A. N. Medd, Chief Architect, C.P.W.D.

M.B.E.—Mr. Ernest Aubrey Bacon, Head of Section, Ministry of Works; Mr. Charles Stanley Burleton, Staff Officer, Ministry of Works; Mr. George Cuthbert Hardy, Surveyor and Engineer, Beeston and Stapleford U.D.C.; Mr. Frederick Victor Rolfe, Chief Building Inspector, Southern Railway Company; Mr. Richard Thomas Weston, Regional Secretary, Northern Counties, N.F.B.T.O.

Engineering Research Award.

ON the joint recommendation of the Presidents of the Royal Society and the Institution of Civil Engineers, the Council of the Institution of Civil Engineers have awarded the James Alfred Ewing Medal for 1946 to Sir Clifford Paterson, O.B.E., D.S.O., F.R.S., for specially meritorious contributions to the science of Engineering in the field of research.

Sir Clifford has been particularly outstanding in the development of new sources of illumination, in the study of their use and precision measurement.

From *The Builder* of 1847.

Saturday, June 19, 1847.

BREACH OF AGREEMENT.—At the Town Hall, Stratford-on-Avon, last week, a man named Thomas Anderson, a labourer, was charged by Mr. Shesby, bricklayer, with neglecting his work and failing to fulfil his engagement of working till next Michaelmas, at 10s. per week. The defendant had gone to Wolverton, where he obtained more profitable employment. He acknowledged his fault, and was liberated on paying the expenses.

DUBLIN, 1947

A MEMORABLE CONFERENCE

THE Architects' Conference is over, probably the most successful ever. Held in matchless weather, attended by a record number of members, both British and Irish, and with the two excellent papers by Messrs. Murray Easton and Cusdin, and by Mr. R. S. Wilshere acting as the outsides of the Conference sandwich whose filling was a remarkable and memorable mixture of social events, Dublin, 1947, will long remain in the memory.

Long before the cream sweep of Collinstown Airport came in sight from the air one had the feeling that this gathering of the architectural clans was going to be happy and productive. The courtesy and efficiency of Aer Lingus, the Irish Air Lines, the smooth journey in perfect weather, and the fine building which awaited us at the other end (in contrast to the standard huts at Northolt Airport) were the right sort of preparation for renewing acquaintance with the varying tones of the brickwork of exquisite Merrion-square, basking in sunshine, and the unchanged warmth of the welcome of old friends.

Architecturally, Dublin has changed little, except that there are some new buildings which add greatly to the interest, particularly Michael Scott's "Four Provinces House" (see *The Builder* for June 6) and Mr. J. R. Boyd Barrett's fine "Industry and Commerce House," which has deservedly won the R.I.A.I. Architecture Medal. A good deal of building work is going on, though Mr. Scott's Bus Terminal appears to be one of the few structures taking form in the centre of the city, and architects generally are busy though handicapped by shortage of materials and architectural assistants. Shops are full of things to make the mouth water, reasonably cheap and mostly uncouponed, though any welter of buying is checked by the Irish Customs on the way home by the simple expedient of confiscation. Food is plentiful, well-cooked and rather expensive, cigarettes half our British prices but not easy to get; whisky the same. Sugar, bread and, curiously enough, butter are scarce, and it strikes a strange note to find—written in bold letters across restaurant menu cards whose items it would be unkind even to mention—the word "It is an offence to ask for bread or butter at luncheon and dinner." But it would be churlish to cavil at this in a city where the usual breakfast is a couple of fried eggs, sausage and an entire week's bacon ration!

The Conference Programme.

On the Wednesday evening the conference informally began with a reception at the Royal Hibernian Hotel, when members were received by the President and Lady Keay and Mr. and Mrs. Stephen Kelly. There was a splendid turnout of Dublin's architects to greet their British confrères, and innumerable small parties took place afterwards. Well teed-up by this happy start, there was a full house at the Mansion House next morning to hear the Lord Mayor's warm welcome and well-informed comments upon architecture and Sir Lancelot Keay's genial and well-spoken inaugural address. The paper on "Recent Trends in Hospital Design," read by Mr. Cusdin, was well received, though perhaps a little technical for a mixed conference paper. Of its value there can be no doubt, and it will be studied in print with care and attention. In the afternoon, after members had investigated the claims of the Dublin restaurants, the Conference assembled in Trinity College for the photograph before passing into the Provost's and Fellows' Garden, where many of the members were presented to Dublin's youthful Lord Mayor and his charming Lady Mayoress before spending the afternoon in sunshine and informal conversation. The music of the No. 1 Army Band, conducted by Lieut. J. P. Brennock, was much appreciated. Then back to dress for the banquet, held in Robert Atkinson's Gresham Hotel, a fitting setting for a great occasion. Nearly 400 guests enjoyed a perfect dinner, some fine speeches (though the Minister for Local Government's political reference to partition seemed out of place at a gathering of architects) and singing such as Dublin justly prides itself upon. The evening was a personal triumph for Sir Lancelot Keay, whose forthrightness on the vexed question of Bankside and fine delivery were universally praised. Mr. Vincent Kelly, traditionally toaster of the guests, was also in cracking form; the fairies which the President claimed were present at his birth must have kissed his tongue as well as that part which had, as he gravely informed an audience by then helpless with laughter, an urgent appointment with the seat of his chair. Altogether a great evening, which for many lasted, with Irish hospitality and a never-ending flow of Irish stories, into the dawn.

The Lighter Side.

Next day (Friday) some listened to Mr. Wilshere's excellent talk on schools, while others succumbed to the lure of the Wicklow Hills or Drogheda and the country north of Dublin. On the latter tour, the writer heard little except of the hospitality of Colonel and Mrs. M'Clintock at Piltdown House, but the Wicklow party, which made their investigation in a fleet of high-powered American cars (to the mortal peril of every dog and child), were enchanted with the beauty of Killiney Bay, Mr. Walpole's gardens at Laragh, and the beauty of Glendalough in the sunshine, for once not forbidding. There was much interest in the 8th-century St. Kevin's Kitchen, one of the Seven Churches, and a very well-content party returned to Merrion-square, after tea at Greystones, full of praise of the beauty of Wicklow and their own prudence in including in their party an expert horticulturist in Mr. A. L. Roberts, and a conductor of the most genial and knowledgeable kind in Mr. Basil Boyd-Barrett. The Conference dance in the Gresham Hotel ended a great day in a traditional Irish manner. And so to bed in order to snatch a few hours' rest before the visit to Guinness's brewery the next morning. Through the dual call of duty and some remaining instinct of self-preservation, the writer did not join this large and popular party, but enjoyed the hospitality of an old friend at the Milltown Golf Club in the afternoon before taking the 'plane for Northolt and austerity.

What is the value of these conferences? It lies, as the President has said, in the happy reunions and friendships made, in the giving and taking of matchless hospitality, in the knowledge that the arts can build a strong and enduring bridge over political disagreement by which unity will one day be reached. It remains only to offer the cordial thanks of all members to their hosts and to congratulate the R.I.B.A. staff on their arrangements which did so much to render the Conference memorable and unforgettable.

*An Editorial on the Conference will be found on page 601, while a full report of the inaugural meeting, the banquet and the papers begins on page 613.

SOUTHAMPTON RECONSTRUCTION SCHEME

FIRST SECTION APPROVED

THE Southampton Borough Council have, like many of the "blitzed" towns, applied for an Order under Section 1 of the Town and Country Planning Act, 1944, to enable them to acquire most of the badly damaged areas of the town. The Council have approved a general scheme of redevelopment, but they consider that it will not be possible to carry this out as proposed unless they are granted the ownership rights for which they have applied, and the decision of the Minister is now anxiously awaited.

In the meantime, however, there are certain limited areas unlikely to be seriously affected by the Minister's decision, and detailed planning is in progress in connection with these areas. Proposals are worked out through a committee of technical officers which includes the Borough Architect, Mr. Denis Winston, M.A., B.Arch., A.R.I.B.A., M.T.P.I.; the Borough Engineer, Mr. F. L. Wooldridge, M.Inst.C.E., M.Inst.M.E.; the Corporation Valuer, Mr. P. E. Purssell, F.A.I.; and the Council's Consultant Architects, Messrs. Johnson and Crabtree, F.R.I.B.A., who have been chiefly responsible for the architectural development of the work.

The first section to be planned in detail, which includes an important group of new public buildings, a main shopping centre, and the redevelopment of the main railway station approach, all linked with the existing civic centre, was approved by the Council at their meeting on May 21, 1947.

Southampton has developed in such a way that almost all the best shopping and business is confined to a ribbon running north and south on either side of High Street and Above Bar, and continuing to the north along the main road to Winchester and London. The scheme now approved attempts to balance this north/south development by creating an east to west axis which, while providing the sites for necessary public buildings, shops, offices, etc., would also revive two obsolescent and badly "blitzed" areas, and provide a suitable approach from the centre of the town to the main railway station. This development would also take the maximum advantage of the existing fine central parks.

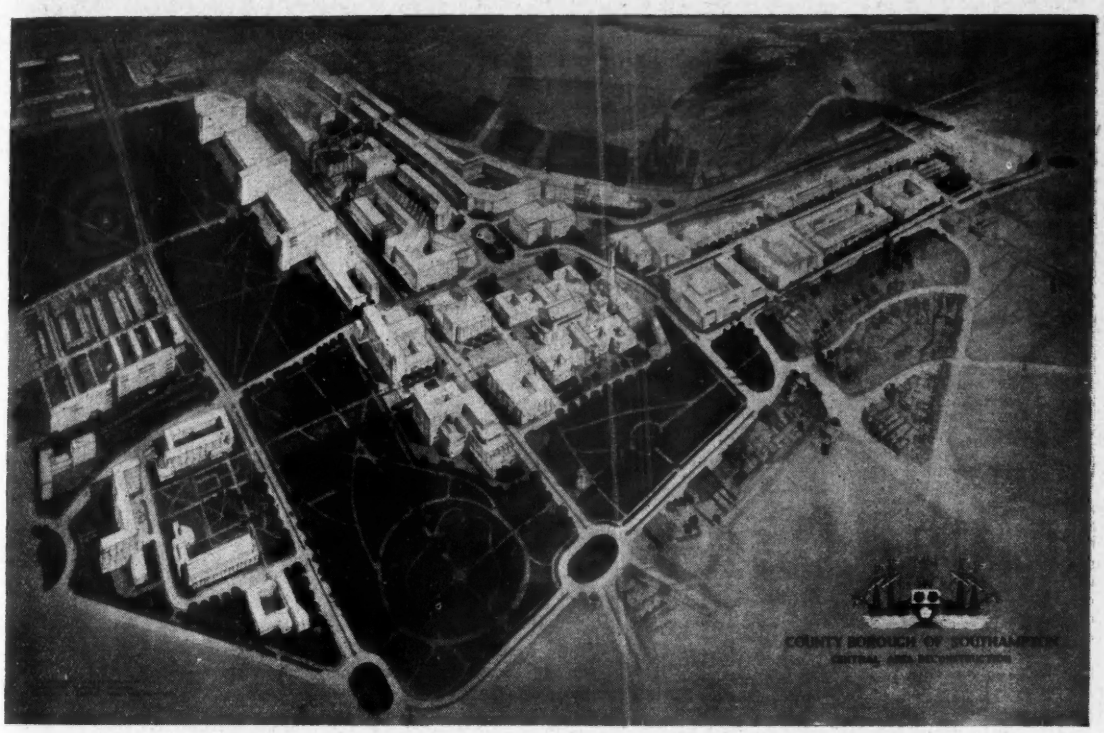
The following are the main buildings involved in the scheme:

1. East Park Terrace (Civic Buildings Group).

This comprises four main blocks of buildings on a triangular site and surrounded by trees and open space, thus continuing the open character of the adjoining park. The focal point is the Central Health Clinic, a six-storey building on the axis of the Civic Centre, and facing it across the park. Nearby will be sited an indoor baths, gymnasium and restaurant. The baths and gymnasium would have a certain functional relationship to the health clinic, and the restaurant would be sited in attractive park surroundings. A position in the north corner of the site is proposed for a new museum, which would eventually replace or supplement the present building in the old part of the town. The fourth element in the scheme is a new technical school and college of art to meet the requirements of the new Education Act as regards further education.

2. Guildhall-square Group (Shops).

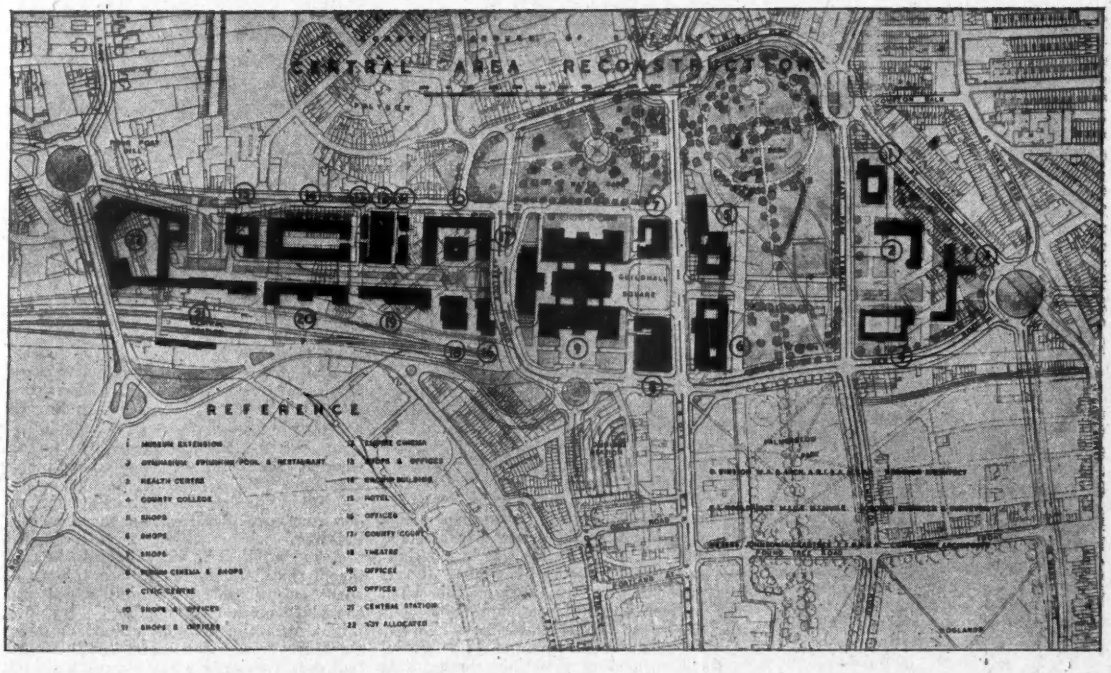
The buildings in this group are devoted almost entirely to shops, with offices over in certain cases, and have been designed



to emphasise a new square in front of the Guildhall, made possible by the destruction of property during the war. At the same time the continuity of shopping frontages along the main street is maintained as far as possible : thus the higher blocks on the east side are set back with two-storey shops fronting on to the main street. A forecourt will be provided in front of the Guildhall, opening on to Above Bar-street, and the Central Health Clinic and other public buildings on the other side of the park will be linked to this forecourt and the Civic Centre by pedestrian access between the shops and across the park. The provision of adequate parking facilities is of great importance, and it is suggested that a portion of the basements of the new shops should be reserved for public car-parking purposes. These basement car parks are approached by a sunken road, which would also provide good service access to the shops in a way which would least interfere with the amenities of the parks and the convenience of pedestrians.

3. Blechynden Place Group: Station Approach (Commercial Buildings).

The area to the west of the Civic Centre as far as the Central Station appears never to have developed in the way which might reasonably be expected, considering its proximity to the Civic Centre and its importance as constituting the main approach to the centre of the town from the rail-



SOUTHAMPTON CENTRAL AREA RECONSTRUCTION. DENIS WINSTON, M.A., A.R.I.B.A., M.T.P.I., SOUTHAMPTON BOROUGH ARCHITECT

way station. This area has suffered extensive war damage, and is at present in a generally dilapidated condition. A completely new layout is therefore proposed, the main feature of which is a broad avenue on the axis of the Law Courts, which would connect the Central Station with the Civic Centre in a direct and dignified manner. Vehicular traffic would use this avenue for access for the buildings flanking it, but it would not become a through traffic route as the connection to the east would be by steps and ramps only. The proposed new avenue would provide considerable additional frontage for commercial and civic purposes, and it has been possible to suggest sites for a number of specific building projects. Some of the buildings proposed are as follows:

COUNTY COURT.—A site is shown for a new County Court between the Empire Cinema and Havelock-road, which is in close proximity to the Law Courts in the Civic Centre, and could be connected, if necessary, by an underground passage to the latter. It is likely that office accommodation in the building adjoining the County Court would be taken by solicitors.

THEATRE.—A site for a new theatre—which might be a municipal theatre, managed jointly with the Arts Council—is shown facing the County Court on the south side of the new avenue, and these two buildings would balance each other in their general massing and treatment.

EMPIRE CINEMA.—The Empire Cinema is almost the only important building in good condition at present standing in this area, and care has therefore been taken to incorporate it in the new development. It is hoped to provide a suitable new frontage for this building on the avenue and to utilise the existing accommodation here for office purposes, as well as providing secondary entrances to the cinema itself.

CENTRAL CROWN BUILDING.—Considerable office space will be required in Southampton to accommodate various Government departments, and the block of buildings at the western end of the new avenue near the station square would be suitable for this purpose.

CENTRAL STATION.—Opposite the Central Station a square has been formed as a forecourt to the station itself, and to provide waiting space for cars, taxis and buses. This space has been opened up to Commercial-road in order to ensure that the station is given proper prominence. A site has been suggested for a new hotel, which would have convenient access to Commercial-road and to the station square, and is near the station, yet reasonably protected from noise. Discussions have taken place with the Southern Railway concerning their proposals for their new station. Two new tracks are to be provided on the north side of the existing lines, which will bring the frontage of their new buildings considerably to the north of the present one, and necessitate a complete remodelling of the present station.

CAR PARKS.—There will, of course, be ample parking space for private cars, taxis, and buses in the new station square. In addition to this provision, space will be available between the new buildings and the railway lines to the south of the avenue and in the courtyards and under the buildings on the north side of the avenue.

DISTRICT HEATING.—The compact development of offices and similar buildings proposed in the above scheme is considered as particularly appropriate for a scheme of district heating, and it is suggested that a site should be provisionally reserved for a central heating plant in the vicinity of the station and convenient to the railway.

THE "BLACK MARKET" IN BUILDING

SERIOUS ALLEGATIONS

AN account of the methods which, he alleged, some builders were adopting in order to carry out "black market" work, accusations of ineptitude on the part of Ministry of Works officials in dealing with complaints of such unauthorised building and suggestions for combating it, were contained in a talk to the Housing Centre on June 10 by COUNCILLOR E. COOK, a member of the St. Pancras Borough Council Housing Committee and Chairman of the Housing Action Committee, a "pressure" group.

The black market in building was a very serious problem, said the speaker. It had been reported to the London Trades Council that in London 40,000 building trade workers had disappeared from the records of the trade, and it was believed they had gone into black market work. The position with regard to housing was getting worse instead of better. In St. Pancras alone the number of families needing a dwelling had increased from 7,000 twenty-two months ago to 11,000 to-day. Of course, there was a great deal of overlapping between boroughs in that some families had their name down in more than one borough, but *The Times* had estimated that there were 250,000 waiting for a house in London alone.

The speaker said that, as a Labour Councillor, he thought the Government had not dealt drastically enough with the problem during the two years it had been in power. Not enough had been done in connection with the problem of black market building alone. What had been done was too little and too late.

After describing how the Government had at long last decided to transfer the power to prosecute black market builders from the Ministry of Works to local authorities, Councillor Cook said the local authorities were getting on to the job more seriously, fines were being imposed and cases were being taken up much more seriously and frequently. The deterrent effects of prosecution were being turned upon the black marketeer.

The speaker claimed that building was not being held up by any great shortage of labour, but by shortages of materials. If building materials could be controlled, the flow of labour would also be controlled. Where the materials were directed, there the labour would follow. It was the shortage of materials which had produced the black market. The great brick shortage continued, and owing to the fuel crisis there had been a falling-off in output of key materials up to 40 per cent. in some cases and in very few instances had there been an increase in supplies.

From where did the builder draw his necessities for the black market? One could blame the public, and he thought the public should be blamed, but to throw moral exhortations about was not of much use. Undoubtedly the public—or some members of it—would pay very high prices to suborn the builder to do black market work. But what means could the builder use to do black market work?

First, he could secure labour by offering it extra incentive in the shape of tips, extra money for travelling, extra bonus for the job. Secondly, by spending money in procuring the illegal use of materials. One method of doing this was by continuous overestimating on all his jobs. It was very difficult to put a check on this when the builder had a large number of jobs scattered over a considerable area. He put a little bit extra on each one. The second method of getting materials was worked because of the laxity of the W.B.A. priority system, through which a coach and horses could be driven. It was only a system of preference, not of control of materials. The builder did not need to prove anything to the merchants; he only needed to present a symbol number and he could collect materials against it. There was no endorsement of his demands and he could present the same symbol to half-a-dozen different merchants and collect from every one if he liked. It was common practice for a builder to collect materials on one symbol number from two or three different merchants.

As an alternative system of control, said the speaker, his committee had put before the Ministry the suggestion that the master certificate and sub-certificate system be restored. Materials should be requisitioned by the Government at a reasonable, agreed price and distributed by the regional officers of the Ministry of Works to the local authorities, a master certificate given to each local authority against the building work to be done in its area and the local authority to ration each builder by issuing a sub-certificate. This system should be applied to a number of key materials. The rest of the building materials did not matter so much. By this method, black market building would largely be killed. The key materials were bricks, steel, timber, cement and electrical supplies such as flex and conduits. It would be extremely difficult for a black market builder to carry on without these materials except for a small number of very minor repairs which would not affect the housing programme.

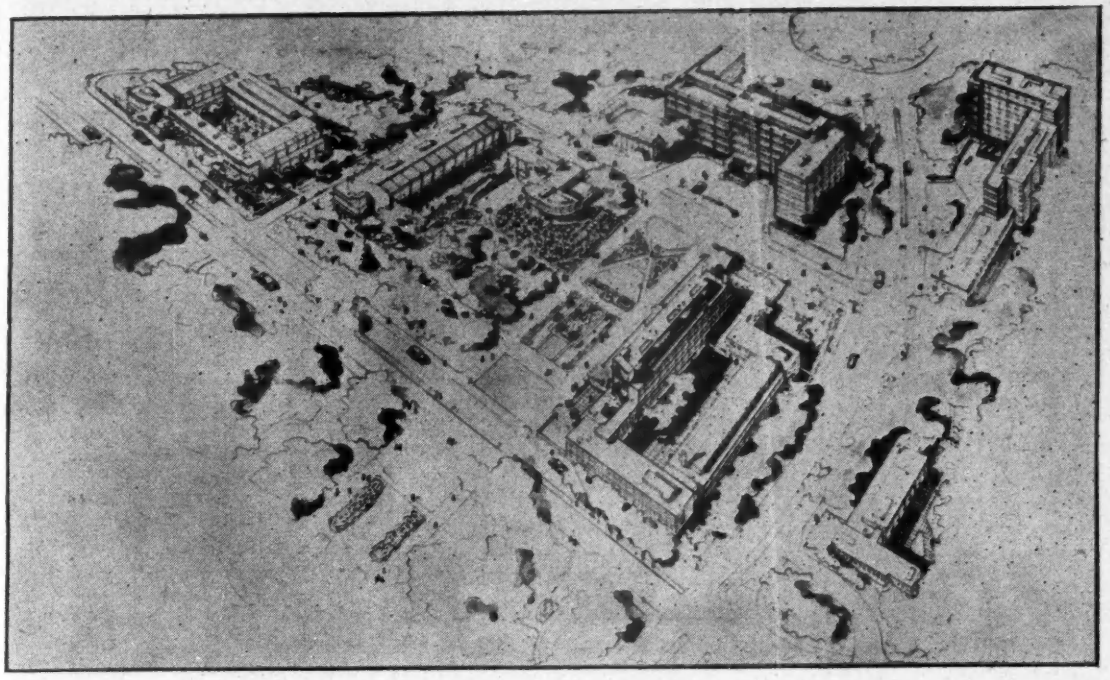
This proposal had so far had no effect on the Departments concerned. His committee had submitted many quite fantastic instances of black market work to the Ministry of Works. For example, in one case where the licence permitted work to the value of £1,850 to be carried out, actually £2,131 had been spent. The attitude of a Ministry of Works official was: "It is only a matter of £280, it is not worth the bother of issuing a summons." That was the attitude of the Ministry of Works time and time again, but when such cases were multiplied all over the country week by week the leakage of materials was really stupendous and ran into hundreds of thousands of pounds.

Another case quoted by Councillor Cook was that of a man in a rural district who bought two derelict cottages and paid more than £5,000 on having them converted into a house, with three men continuously engaged on the site and many more employed from time to time.

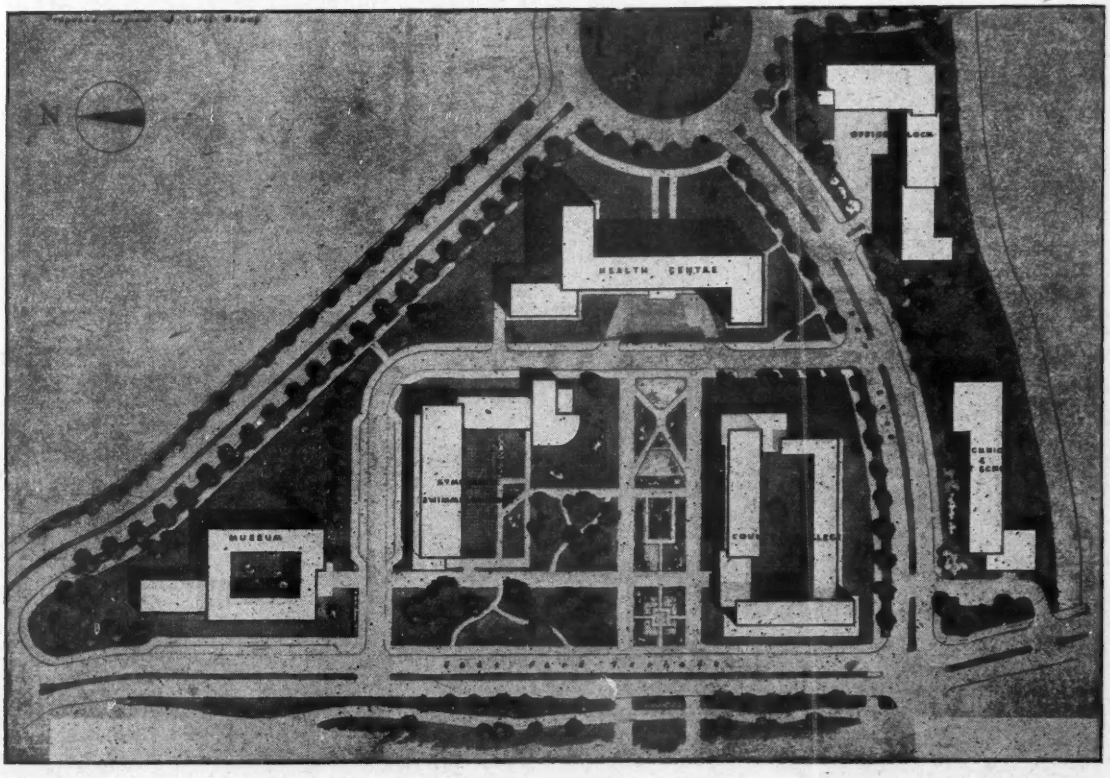
Such cases, he said, constituted an indictment of the Ministry of Works. The speaker alleged that many of the officials now engaged at the Ministry were placed there during the time of the Caretaker Government and were people with no knowledge of the building industry.

The speaker also alleged that a tremendous amount of building and redecorating work going on in London at the present time on commercial buildings, particularly hotels and restaurants, was black market work, and said that in one month alone in one London borough over £200,000 had been spent on commercial building, whereas the borough-sponsored was only £60,000. He also claimed that out of 240,000 building trade workers in the London area only 40,000 were engaged on new building.

Asked whether he did not think the raising of the limit of money permitted to be spent on unlicensed building would stop the black market, Councillor Cook said it might open the door to a flood of minor structural work. His committee, however, had discussed a proposal to raise the limit to £20 or £25.



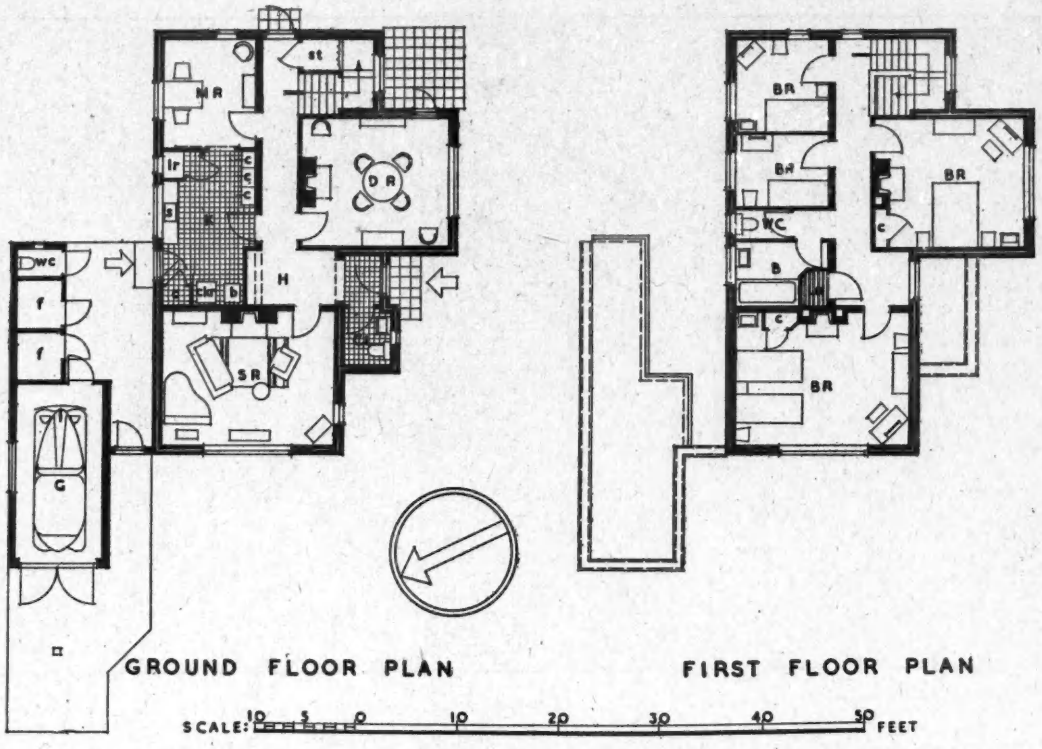
Aerial View of Proposed Civic Group.



The Layout.

SOUTHAMPTON CENTRAL AREA RECONSTRUCTION: The Civic Group

[DENIS WINSTON, M.A., A.R.I.B.A., M.T.P.I., Southampton Borough Architect



HOUSE AT LEVERSTOCK GREEN, HERTS. JOHN HOWARD LEECH, F.R.I.B.A., ARCHITECT

LAND CLASSIFICATION IN THE WEST COUNTRY

THE University of Bristol set up a Land Classification Sub-committee of its Reconstruction Research Group in 1944 to prepare a map of the three counties of Gloucestershire, Somerset and Wiltshire, defining the character of the land as affecting the programme for reconstruction. The chairman of the Group was Sir Philip R. Morris, the vice-chancellor of the University; the field work was done by Dr. D. A. Osmond, and the maps were prepared under the direction of Lieut.-Col. O. D. Kendall.

The main objective of the undertaking was to offer guidance as to agriculture, and its only interest to those concerned with housing and industries other than this is in their relationship and location relative to the use of the various areas of land for productive purposes. In any highly and densely populated areas there must of necessity be conflicting claims for the use of land for agriculture, industry and housing, and it is necessary that these claims should be carefully weighed so as to ensure that utilisation is in the best interests of the community.

In Great Britain it is now increasingly recognised that the area of high-grade farm land is limited, and that a very strong case must be made before alienating any of it for other purposes. This calls for careful planning before further development is undertaken, and as a preliminary the classification of agricultural land is needed to provide planning authorities with the necessary guidance for safeguarding agricultural production and to direct other interests on lines that interfere with this to as limited an extent as is economically practicable.

The present memoir* and the series of maps which accompany it summarise the results of the investigations and give a general picture of the land of the region, topographical, geological, climatic, etc., with special relation to the soil and its productive value, indicating the various grades and qualities. Though the region is mainly agricultural, it has only a limited area of high-grade land, and as this is mostly in proximity to the principal towns there is a danger that some of it may be alienated. Much of the poorer land, such as Salisbury Plain, the Cotswolds, Forest of Dean and Dartmoor, is unlikely to undergo any drastic change, but there are wide areas of an intermediate but varying quality which would demand study in further detail to determine the appropriate uses. For such more intimate investigations those interested are referred to the larger-scale maps deposited in the University at the offices of the Reconstruction Research Group.

H. V. L.

SOCIETIES & INSTITUTIONS

R.I.B.A.

Building Surveyor Examinations

At the R.I.B.A. Examination for the office of Building Surveyor under local authorities held on May 7, 8 and 9, five candidates presented themselves, and the following were successful: Messrs. S. E. Cross, Rhyl, Flintshire; T. Idris, Gloucester; and F. J. Watts, Cranbrook, Kent.

* *Land Classification in Gloucestershire, Somerset and Wiltshire.* Published for the University of Bristol by J. W. Arrowsmith, Ltd., Bristol. Price 12s. 6d.

NORTHANTS, BEDS. AND HUNTS. A.A.

Annual Meeting

THE annual meeting of the Northants, Beds. and Hunts. Association of Architects was held on Tuesday, June 3, at the Ladies' Club, Marefair, Northampton. Mr. W. R. Steel, F.R.I.B.A., of Luton, who has held the office of President for the past two years, was thanked for the excellent manner in which he has carried out his duties, and for representing the Association on the Council of the R.I.B.A.

The new President elected for the session to June 30, 1948, is Mr. P. J. J. Panter, F.R.I.B.A., Burystead-place, Wellingborough. Mr. Panter has been an active member of the Council for a number of years and was elected Vice-Chairman in 1939, and is Chairman of the Northamptonshire Branch.

The following officers were elected :—

President, P. J. J. Panter, F.R.I.B.A., Wellingborough.

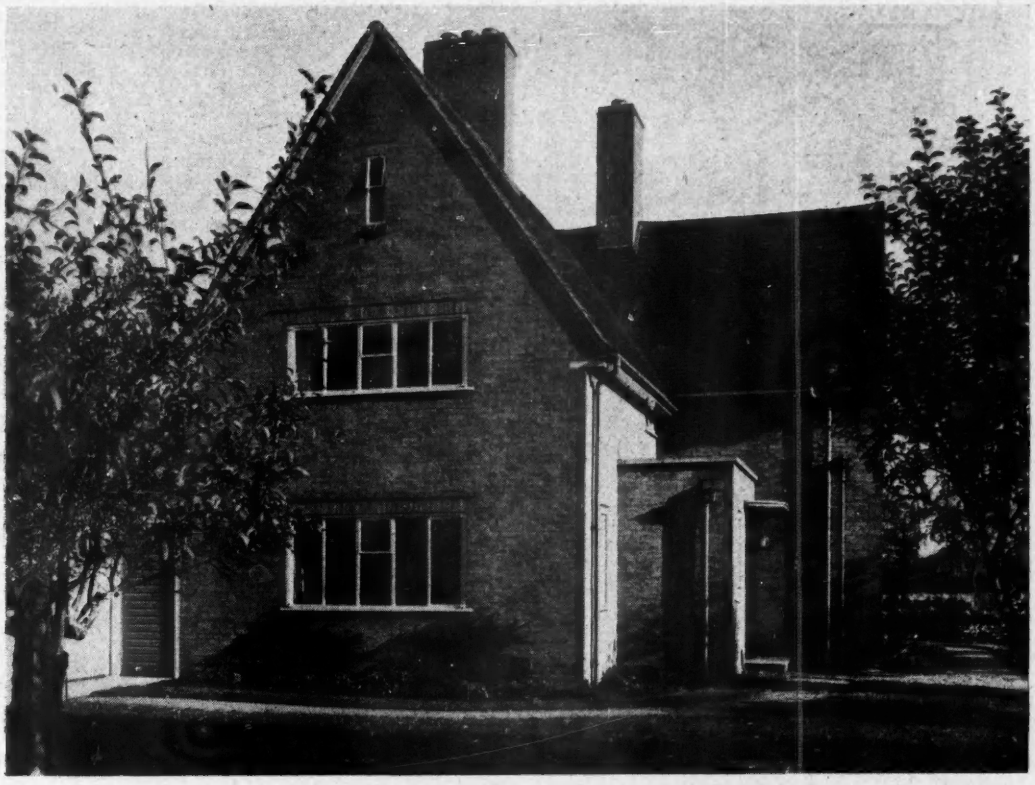
Vice-Presidents, H. A. Harris, L.R.I.B.A., Bedford; W. Rosser, F.R.I.B.A., Northampton.

Past-President, W. R. Steel, F.R.I.B.A., Luton.

Members of Council: F. H. Allen, F.R.I.B.A., Northampton; F. A. Coles, L.R.I.B.A., Long Buckby; C. Croft, F.S.I., L.R.I.B.A., Northampton; B. C. Deacon, F.R.I.B.A., Bedford and Luton; S. V. Goodman, L.R.I.B.A., Bedford; W. A. Lea, F.R.I.B.A., Huntingdon; F. C. Levitt, L.R.I.B.A., Biggleswade, Beds.; E. J. Storry, A.R.I.B.A., Kettering; H. F. Traylen, F.S.A., F.R.I.B.A., Stamford.

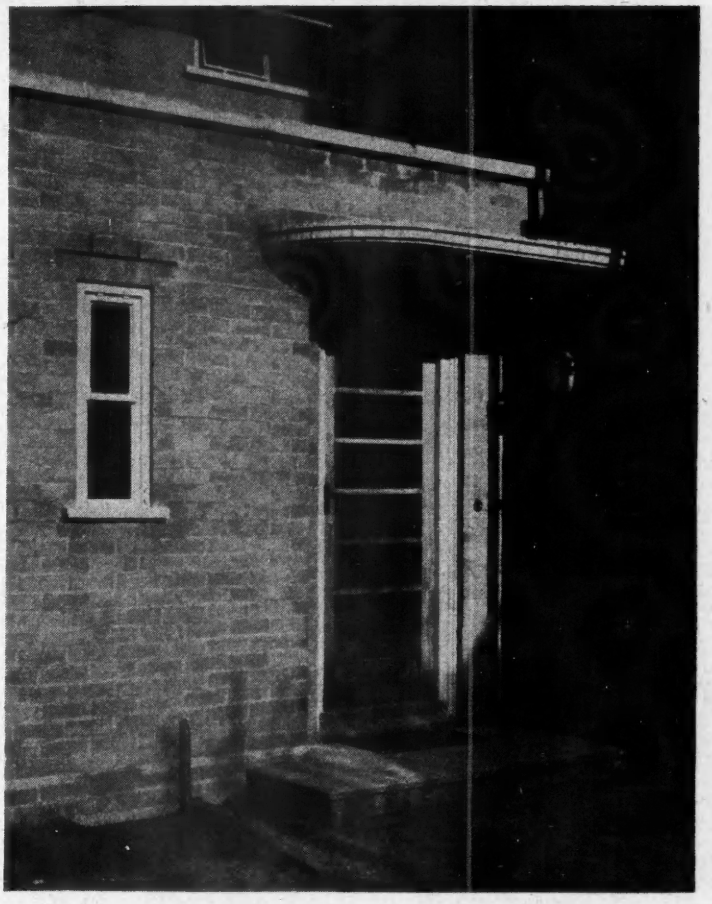
Hon. Auditor: F. B. Allen, L.R.I.B.A.

Hon. Secretary and Treasurer: P. G. Copson, L.R.I.B.A., 35, St. Matthew's-parade, Northampton.



HOUSE at LEVERSTOCK GREEN, HERTS

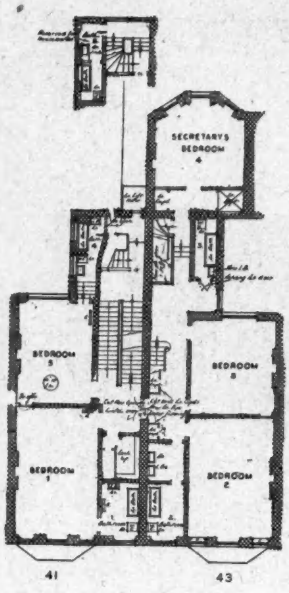
JOHN HOWARD LEECH, F.R.I.B.A., ARCHITECT



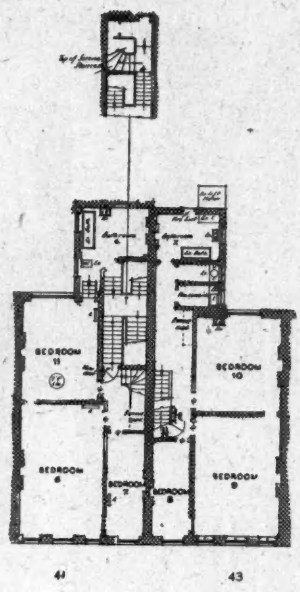
THIS HOUSE WAS COMPLETED during the first year of the war, and was planned to provide for future extension for an additional room on the ground floor and an extra bedroom off the first floor at the east end.

The site is a long, narrow one and part of an existing garden to a larger property, part of which again is an orchard, and consideration was given to the placing of the house so as to disturb as little as possible the existing fruit trees.

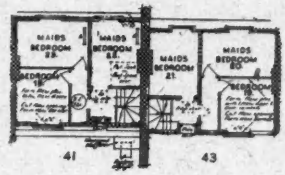
The external walls are faced with golden-brown, sand-faced, hand-made bricks and pointed to tone with the general colour. The roof is covered with hand-made sand-faced tiles to a pitch of 55 degs. Windows are standard metal casement types set in wood surrounds. All interior joinery is carried out in Columbian pine: wood-block floors on the ground floor, and battened and joisted floors on the first floor. The total cost, including pavings, was £1,850, and the builders were Messrs. R. C. Ebbs, of Park-street, St. Albans.



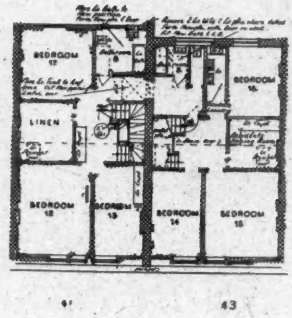
SECOND FLOOR PLAN



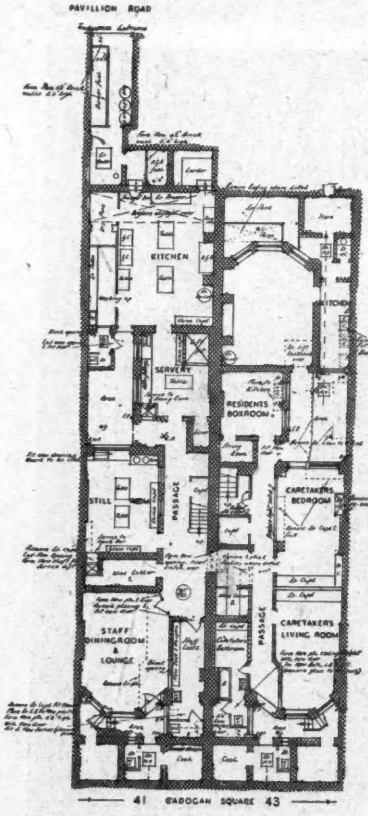
THIRD FLOOR PLAN



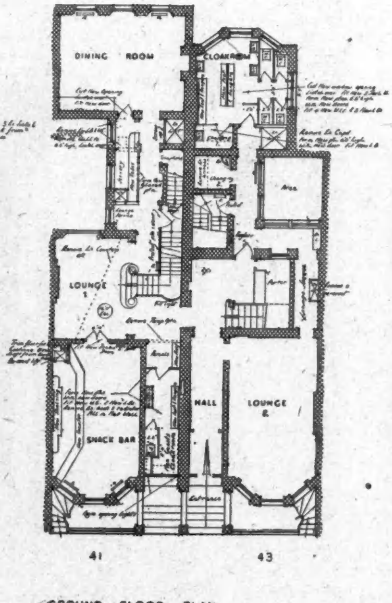
FIFTH FLOOR PLAN



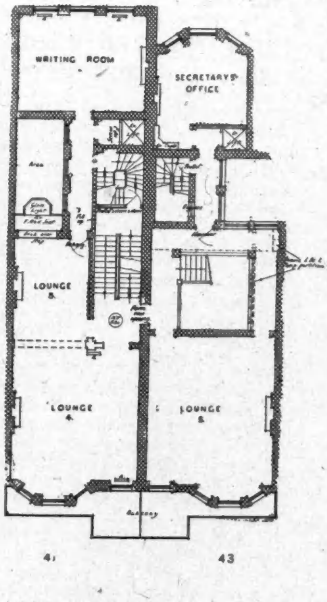
FOURTH FLOOR PLAN



BASEMENT PLAN



GROUND FLOOR PLAN



FIRST FLOOR PLAN

CLUB FOR WOMEN'S VOLUNTARY SERVICES, 41-43, CADOGAN-SQUARE, S.W.

PERCY V. BURNETT, F.R.I.B.A., ARCHITECT FOR CONVERSION.

A First-floor Lounge.

A CLUB

FOR THE WOMEN'S VOLUNTARY SERVICES, 41-43, CADOGAN-SQUARE, S.W.

PERCY V. BURNETT, F.R.I.B.A., ARCHITECT FOR CONVERSION

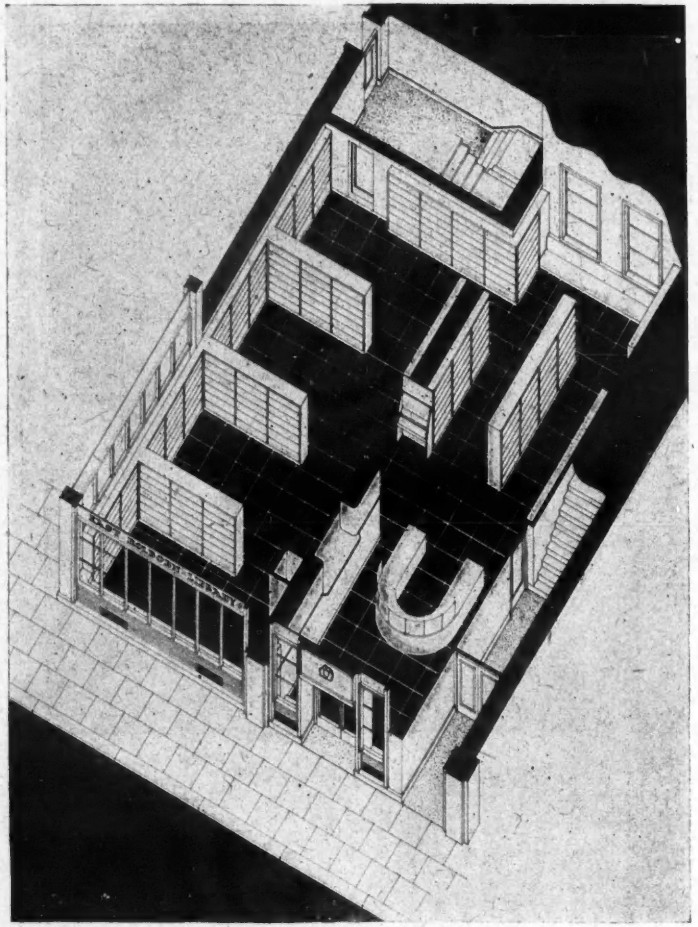
THE TWO HOUSES, 41-43, CADOGAN-square, S.W.1, have been converted into a club for the Women's Voluntary Services, and were opened by the Queen on June 4.

The job was a simple one, and consisted of uniting two typical Victorian houses, and adapting them so as to provide five lounges, a dining-room and snack bar with service arrangements, writing-room, 23 bedrooms and nine bathrooms, as well as staff and service arrangements. Owing to the austerity conditions imposed at present, it has not been possible to redecorate on anything more than the simplest scale.

The general contractors were Messrs. Rice and Son, Ltd., and sub-contractors included Matthew Hall and Co., Ltd., for heating, hot-water supply and plumbing; S. T. Saunders and Sons, Ltd., for electrical work; Waygood-Otis, Ltd., for work to passenger lift; and James Ritchie and Sons, Ltd., for work to service lifts.

The Second Lounge on First Floor.

D



Top : The Exterior.

Left : An axonometric view.

Right : The entrance hall and staff enclosure.

EAST HOLBORN LIBRARY. Comprising lending library, junior library and a study room, this building (at 34-36, Gray's Inn-road) has been reconstructed from bomb-damaged premises. The strictest economy in the use of labour and materials has been observed and old materials—timber, doors and fittings—used wherever possible. The lending library contains 20,000 volumes and the junior library about 3,000. The study room is furnished with reference books and individual study tables and cubicles. Messrs. C. P. Roberts & Co., Ltd., were the builders, and Libraco, Ltd., supplied all the furniture and fittings. JOHN VIGOR, A.R.I.B.A., ARCHITECT.

THE ARCHITECTS' CONFERENCE, 1947, DUBLIN

THAT there was great scope for the skill of architects in the building of hospitals and schools in the post-war rebuilding programme was stressed by SIR LANCELOT KEAY, President of the Royal Institute of British Architects, in the course of his presidential address on June 12 at the 1947 British Architects' Conference, Dublin.

Members were welcomed by the Lord Mayor of Dublin (ALD. J. MCCANN, T.D.), who expressed the pleasure Dublin felt at the presence of the Conference. In Dublin, he proceeded, they had a tradition of beauty. Whatever had happened down the ages, from the coming of the Danes in the ninth century, under successive forms of government, with some of which they might have been displeased, they did leave behind fine buildings. There were remnants in Dublin of Danish and Norman architecture and the finest specimens of Georgian architecture.

"I believe," declared the Lord Mayor, "that every generation should provide its own masters and its own masterpieces. While I revere the beauty in architecture, art, literature and music of the past, still I look to contemporary artists, writers, and musicians to produce masterpieces—if I may put it this way—in the tempo of the day."

Speaking of the conflict between utilitarianism and the æsthetic, the Lord Mayor said that to-day, when the false philosophy of utilitarianism was sweeping the world, they should reflect on beauties left by past generations and strive to produce beautiful things for posterity.

He hoped that the Conference would not only bring together British and Irish architects for an exchange of views, but would lead in a broader way to a merging of the minds of the people of the two countries in the name of beauty.

"I believe that you from England and we from Ireland have offered the world much and will again do so. The closer we work in harmony the better for the two peoples, and the better, perhaps, for the world."

The Inaugural Address

After expressing thanks to members of the Royal Institute of Architects of Ireland for their invitation to the R.I.B.A. to visit Dublin for the third time, the President said :—

The papers to be read at the Conference deal with subjects more practical than profound, and we shall discuss the part we must play as architects to ensure the better education of the young and the more efficient care of the sick. In both these fields —in the building of schools and hospitals— there is great scope for our skill and much to be done, for we live in an age which decrees that advantages once the monopoly of the few must be brought within the reach of all. Reformers are impatient of delay and though we may think the design of a school warrants as much care as the subjects taught in it, the keen educationist will accept a surfeit of standardisation if it ensures speed in building. There is therefore a danger that many architects will become merely agents for the erection of standardised prefabricated buildings constructed by methods quite alien to traditional and accepted practice. It was an artist who, tired of the addled art of the modernists, said "Show me some Rembrandts to rinse my eyes"; and so, some of us, having gazed long at the blueprints of standardised buildings, are glad to come to Dublin and stand in the squares built in the "golden period of architecture" that we, too, may rinse our eyes.

And when we have benefited by the process we may pause to ask the question—What is the trend of Architecture to-day? This annual conference is hardly the occasion to provoke controversy, though I understand cause for argument is not looked upon with disfavour amongst those who uphold the right of individual expression. And so when we meet together we may have time to discuss the question I have asked, for it is of importance to the profession and indeed to the world at large.

The limitations placed upon our work may have considerable effect upon the future of craftsmanship and the passing of the skill of the craftsman from one generation to another. More than once an Art has declined when it became debased by over-embellishment. To-day we build in the main without embellishing our structures with the arts of other crafts. There is little work for the carvers in wood or stone, and posterity will look in vain for examples of their craft in association with our work erected in a period which may be held unique in the quantity if not in the quality of building. Simplicity in design is being forced upon us of necessity, if not by desire. One school of thought looks with disfavour at the architectural clothing of the constructional members of a building. Fortunately we have withstood the wave of modernism which has affected the other Arts, particularly painting, the reason for which is not difficult to determine. But the conditions under which we are working will compel us to seek novelty in design and construction, and thus out of our difficulty we may advance a stage in the gradual evolution which denotes real progress. But when we are in doubt we may profit if we remember the words of the artist I quoted earlier, "Show me a Rembrandt."

MR. STEPHEN KELLY, F.R.I.B.A., President of the Royal Institute of the Architects of Ireland, proposing a vote of thanks to the President for his address, said Sir Lancelot Keay's thought was towards the highest form of architecture. Architecture, he said, was the art of building in beauty and in truth.

Some Towers, Spires & Domes of DUBLIN
1 Four Courts
2 Office of Arms, The Castle
3 St. George's Church
4 St. Patrick's Cathedral
5 St. Paul's, Arran Quay
6 Custom House
7 Rotunda
8 Royal Hospital

Reproduced from the Conference Handbook, and drawn by Raymond McGrath, B.Arch., M.R.I.A.I., F.R.I.B.A., who also edited the Handbook.

The Conference Banquet

The Conference Banquet was held on the Thursday night at the Gresham Hotel, when a brilliant company, under the chairmanship of Sir Lancelot Keay, heard as fine a display of oratory, interspersed with Irish singing, as the occasion deserved.

Responding to the toast of "Ireland," proposed by the Chairman, MR. MACENTEE (Minister for Local Government) said that in the past the association between Great Britain and Ireland, in its political aspects, at least, was for the Irish a forced and painful one. To-day it had become a free and voluntary one, and because it was in simple truth a free and voluntary association he believed it would become ever closer and more enduring. "It would be that already," continued the Minister, "were it not for the tragedy of a divided Ireland, which impedes the full development of that association in economic and international affairs and prevents the closest collaboration in some matters of vital interest to us both. We realise that if such a solution is to endure it must be one which will be acceptable to all concerned. Yet, looking on the troubled world of to-day, and with some foreboding as to the future, may I suggest that no narrow interest should hinder an accord which will make it possible for the peoples on both sides of the Irish Sea to live in peace and freedom, not only as good neighbours and good customers of each other, but as close and staunch comrades.

"In Ireland there are many opportunities to offer to members of the architectural profession, for there are many deficiencies to make good in the administrative buildings, in hospitals and in schools, and, largest and most urgent task of all, in houses for the workers.

"We have, for a country of our size and resources, a vast building programme to fulfil. To complete it worthily we want the guidance and assistance of architects of taste and vision. We rely upon the British and Irish Institutes and the schools of our universities to supply such men."

MR. STEPHEN KELLY, F.R.I.B.A., P.R.I.A.I., proposing the toast of "The Royal Institute of British Architects and the Allied Societies," said that the R.I.B.A., in its life of more than a century, gave a lead in all things important to the profession and important to architecture. Referring to the British Registration of Architects, he said they had sought a similar measure in Ireland.

The President's Response.

THE PRESIDENT, in his response, said that the relationship of the Institute and its allied societies had been described as that of mother and daughters. Despite her humble origin—for the Institute was born in a tavern—she had been a model mother, for she had allowed that measure of independence to her children which had preserved their freedom of action and individuality which is so important to-day.

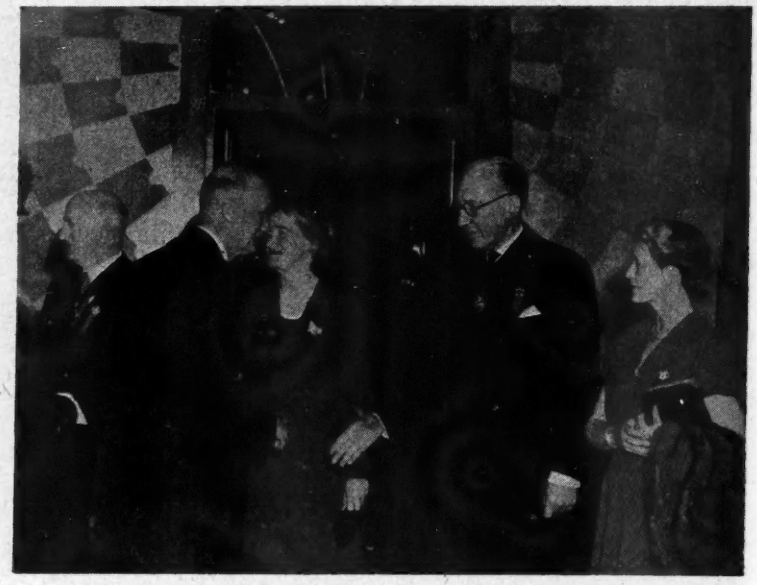
Turning to Conference matters, Sir Lancelot said that he had always felt that, apart from papers read, the value of a conference such as this was the opportunity it afforded of greeting old friends again and making new ones, and the mutual exchange of views upon common problems. "It cannot be disputed that much of the beauty of Dublin remains whilst some of ours has been destroyed, and not always as the result of a second world war. But we across the water have not solved our problems of traffic congestion or obliterated our slums, and I see no immediate prospect of solution, due to the difficulties which surround us. If you in Dublin can solve your problems of slum clearance before us in England, then I say, 'Good luck to you!'

"As I flew here in the early morning light yesterday high enough to look down on the great panorama of mountain and dell, rolling field, golden sands or rocky cliff girt by the silver sea, and too high to assess whether the buildings below could be said to add to or detract from the works of nature, and then flew out into the space which separates the two islands, I could not help wondering what would be the trend of architecture in the world of to-morrow. Then quite suddenly a cream-coloured building stood out in the slight haze as we dropped at Collinstown Airport. Once again I was able to admire the work of Desmond Fitzgerald, to whom I would like to offer my personal congratulations on a particularly fine piece of work. Was this an answer to my question—that that we should set about the solution of our problems entirely unhampered by traditions and the older methods of construction? I doubt if that is the answer. New problems are facing us every day, and we are right to employ new methods in their solution which will influence design, but some of our problems are not new, they evolve from the conditions in which we are working to-day. In their solution we must take account of tradition and evolve our solution from their starting-point."

The Bankside controversy had been mentioned. "This is the first instance in our time of dictatorial powers prevailing against the expressed will of Democracy," declared the President. "This aspect of the matter is more serious than might be thought at first, for much of the work of the immediate future must be dependent upon some Government approval. There is a very real danger that individual expression will be suppressed by bureaucratic dictation, and so all will suffer in consequence. Standardisation will be overdone, poverty in expression can become meaningless and the architecture of the world of to-morrow may in consequence compare very poorly with that of the past.

"It will be then that we shall say, 'Show me a Rembrandt that I may rinse my eyes,' and we shall want to come again to this Emerald Isle, with its blue mountains and its fairies and enjoy the hospitality of trusted friends. But before we come again we shall hope to see many of you in England. Next year the Conference will be meeting in Liverpool—the city in which I have lived for the longest period in my life. Then I hope there will be a great rally of members of the Royal Institute and many members of the allied Societies."

The toast of "The Guests" was proposed, in his own inimitable fashion, by MR. VINCENT KELLY, and responded to by DR. CONWAY, President of University College, Dublin, who said that the College was planning a new architectural school to overcome present congestion, but there were many difficulties, particularly the question of a site. In the immediate future, he said, architects would be asked, with the approval of the Irish Government, to provide plans for over a million pounds' worth of new buildings.



The President, Sir Lancelot Keay, K.B.E., receiving the Mayor of Gloucester, (Ald. Wm. Jones) at the Informal Reception. On the left are Mr. Stephen Kelly (President R.I.A.I.) and Mrs. Kelly, and on the right, Lady Keay.

The Company Present.

Those present at the Banquet (many of whom also attended the Conference Dance held at the Gresham Hotel the next night) included Mr. Patrick Little (Minister for Posts and Telegraphs), Dr. E. H. Alton (Provost of Trinity College), Mr. R. H. Gibson (President, Royal Society of Ulster Architects), Sir Geoffrey Whiskard, Mr. C. G. Stillman (V.P.R.I.B.A.), Mr. Harry Robson (President, Architectural Association of Ireland), Sir Patrick Abercrombie and Miss Deborah Abercrombie, Mr. and Mrs. A. W. Kenyon, Mr. and Mrs. Harry Allberry, Mr. Eric Ambrose, Mr. and Mrs. Victor Bain, Mr. Hubert Bennett, Mr. and Mrs. T. Ailwyn Best, Mr. and Mrs. C. J. Burnett, Mr. and Mrs. Eustace Button, Mr. and Mrs. T. J. Cahill, Mr. and Mrs. W. H. H. Cooke, Mr. and Mrs. S. E. T. Cusdin, Mr. and Mrs. J. L. Denman, Mr. and Mrs. H. A. Dod, Professor J. V. Downes, Mr. and Mrs. T. W. East, Mr. R. E. Enthoven, Mr. and Mrs. J. W. Fairweather, Mr. and Mrs. Desmond Fitzgerald, Mr. Frederick Gibberd, Mr. and Mrs. A. G. Henderson, Mr. and Mrs. G. Noel Hill, Mr. and Mrs. Felix Holt, Mr. G. S. Horner, Mr. and Mrs. L. C. Howitt, Mr. and Mrs. J. O'Hanlon Hughes, Mr. T. F. Inglis, Mr. P. L. Leigh-Breese, Mr. Ian M. Leslie, Mr. and Mrs. R. H. Livett, Mr. and Mrs. L. C. Lomas, Mr. and Mrs. S. H. Loweth, Mr. J. McGeagh, Mr. and Mrs. E. Maufe, Mr. E. Milburn, Mr. J. L. Morgan, Mr. and Mrs. Niall Montgomery, Prof. and Mrs. P. Purcell, Mr. and Mrs. A. L. Roberts, Mr. and Mrs. J. J. Robinson, Mr. and Mrs. G. Sanville, Mr. Michael Scott, Mr. and Mrs. H. T. Seward, Mr. and Mrs. C. C. Shaw, Mr. C. D. Spragg, Mr. and Mrs. J. H. Stevenson, Mr. Gordon Tait, Mr. and Mrs. W. J. Turner, Mr. Pembroke Wicks, Mr. and Mrs. R. S. Wilshere, Mr. Denis Winston, Mr. F. R. Yerbury, Mr. Eric Bird and Mr. F. R. S. Yorke.

Hospital Design

MR. JOHN MURRAY EASTON, F.R.I.B.A., and MR. S. E. T. CUSDIN, A.R.I.B.A., had prepared a paper on "Recent Trends in Hospital Design," which was read by Mr. Cusdin in the absence of Mr. Easton. The authors prefaced their remarks by stating that the urgency of the need to determine what should be aimed at arises primarily from the now almost universal recognition of a national duty to provide the best preventive and curative treatment for all who need it, and directly from recent health legislation with its consequent programme of hospital construction.

The authors went on briefly to discuss three Continental hospitals, the Hospital Beaujon at Clichy, Paris, by Jean Walter; the Louis Pasteur at Colmar, Alsace, by M. Wetter; and the New Burgerspital at Basle, Switzerland, by Vischer, Baur and Durig, and in the course of their conclusions made the following observations:—

It is clear that the broadly rectangular form of main ward block illustrated in the three examples cannot be applied to very large hospitals without risk of producing buildings which are intimidating in their effect. At Basle it has taken all the resources of architectural skill and perfect craftsmanship to avoid it: Colmar is definitely too long, and Beaujon is overwhelming. In a city of skyscrapers like New York great height may offset some of these drawbacks, but it brings others in its train.

At Lille, at Ankara, and in a study for a medical centre for a town of 750,000 inhabitants, Jean Walter has adopted a plan which in its crystalline precision sets at naught some long-held traditions—aspect and the sanctity of the ward unit in particular. This is a functional and mechanis-

tic rather than a humanist approach to a problem which has been tackled at Zurich (in the new Kantonsspital) and at Stockholm in another way.

Thus, at Stockholm, Carl Westman, the architect of the Karolinska Hospital, has used every resource to deformalise what is in essence a pair of parallel blocks joined by an H-shaped link. The latter contains all the consultation, diagnostic and treatment departments, and the staircase halls which give access to the ward units.

All the ancillary buildings have been disposed with skilful informality along natural contours, and a remarkable avoidance of institutional character has been achieved.

This raises an interesting question: should institutions look institutional? A thousand-bed hospital is some institution whether it wants to be or not. With the best will in the world it can't look like a group of 18th-century almshouses. Should we mitigate this or not? Mr. Moser and his partners at Zurich, and Mr. Westman at Stockholm, say "Yes," and Mr. Walter says "No." So also does Mr. Cederstrom, the engineer-architect of the Sodersjukhuset (hereinafter to be known as the South Hospital) at Stockholm.

This vast structure, which contains 1,200 beds, looks every inch its size. The plan somewhat resembles that of Basle in the placing of the polyclinics, operating theatres, etc., in a lower building to the north. Mr. Cederstrom is a master of standardisation in hospital organisation and planning, and the South Hospital reflects this mastery. Whether you like it or not perhaps depends on whether your attitude is that of a 20th-century termite or 19th-century individualist earthworm.

In smaller hospitals this problem becomes less acute. Messrs. Stephenson and Turner's Royal Melbourne Hospital (540 beds) is based on a theme somewhat similar to that of the South Hospital, but its size brings it into a more human scale, and its expert planning places it in the highest grade of international hospital design.

The Ward Unit.

In none of these hospitals, with the exception of Beaujon, does the large open ward, with its 20 or more beds at right angles to the window walls, survive. The bed parallel to the window has won, and the larger wards have either four or six, or else, as at Melbourne, bays separated by glass screens each containing four beds.

What is not so well established is the additional accommodation required for the nursing, diagnostic, and treatment facilities in the ward unit. The Nursing Council of Great Britain has published a full and concise description of what, in its opinion, the unit should consist of both as to the number of beds and the ancillaries. Twenty-five beds is the maximum recommended, and for this there is a list of ancillaries formidable in size and number. Each unit is, of course, the domain of one sister. At Beaujon it will be remembered there were no fewer than 94 beds in the largest type of unit with one complete set of ancillaries, some parts of which are multiplied. At Colmar the largest unit is 38 beds, and at Basle 50 sub-divided into three, but again with one set of ancillaries. In America the average quoted by Isadore Rosenfield in his new book on hospital design is 50. Two of the newest hospitals there have 44- and 46-bed units. It is obvious that these large units permit, without extravagance, a much fuller and varied set of ancillaries than does the small unit recommended in England. Laboratories and doctors' rooms can be reasonably included.

These are matters which the architect cannot decide, but obviously they have a great effect on planning and on cost. M. Walter, for example, claims that in his latest design phenomenal reductions have been achieved in the ratio of space occupied by ancillaries and corridors to actual ward space notwithstanding that a sluice room, bath and lavatory are provided for each 12 patients. The totally centralised lift service as at Beaujon would be impossible in a hospital of similar size in England; nor would it be possible to provide adequate ancillaries in a single row of rooms on the north side of the corridor. Some adaptation of the Colmar principle of projecting ancillary blocks would have to be resorted to unless the ward unit were strung out to great length by the provision of many single-bed wards. This question of the size of the ward unit is one which deserves the closest scrutiny in the interest of economy. We are well aware that the question is bound up with that of the existing system of probationer nurse use and training, and that factors of running costs have to be carefully balanced against those of structure and fittings. But as taxpayers as well as architects we have reason to put this question.

Aspect.

Aspect, especially in regard to wards, has always taken a predominant part in the disposition of hospital buildings. That wards should face due south, or perhaps a little east, or a little west of south, has tended to become axiomatic. M. Jean Walter in his book previously referred to has derided this theory. He claims that with good light and modern methods of heating and ventilation it does not matter which way the wards face. We think there is a certain amount of truth in his contention.

Many hospitals have been rendered inconvenient by the insistence on having all wards facing south and all operating theatres facing north, but we cannot believe that in a climate like ours it is reasonable to discard the opportunity when it exists of getting sunshine into wards. But other factors such as general convenience, good views, etc., should be given equal consideration with that of south aspect; and an open horizon, be it north, south, east or west, is preferable to one which is seriously obstructed by intervening buildings.

Vertical Planning and Concentration.

In all the examples mentioned there has been a full acceptance of the principle of vertical planning of the large hospital blocks, and in general of putting like over like. Thus ward units may be superimposed to any reasonable extent, as may nurses' and staff bedrooms. Two or three or more storeys of operating-theatre suites present no difficulties, but the out-patients' departments are generally more easily handled on one floor. Similarly kitchen, boiler-house, laundry, etc., are in many ways more satisfactory as separate blocks; but here we come up against the contrary principle—concentration and the principle of the centralisation of vertical circulation for the main hospital and service traffic. Jean Walter's study for a medical centre provides a centralised vertical circulation as do Melbourne and Beaujon. Decentralised circulations are found at Colmar and the Karolinska, and duplicate vertical circulations at Basle and at the South Hospital.

Bound up in this is the vital aspect of the detailed planning and size of the ward unit, the amount of site available for the hospital as a whole, and particularly nowadays, that of economy. The choice between these solutions must inevitably arise from a judgment based on knowledge of the conditions of the site, size, and proposed organisation of the hospital.

Sizes and Types.

The last-mentioned includes the important distinction between teaching and non-teaching hospitals, and in the case of teaching hospitals whether pre-clinical studies have to be provided for or whether, as in the case of hospitals in a university town, they already exist.

Obviously, the teaching hospital must include the fullest possible range of departments of a size appropriate to the region for which it caters. This may imply a very large hospital indeed, and the question then arises—should there be some degree of decentralisation? Where

Mr. and Mrs. S. E. T. Cusdin (left) with Mr. and Mrs. Maynard Lyndon (representing the American Institute of Architects) at the Garden Party at Trinity College.

Mr. D. A. Tyndall, M.R.I.A.I. (left), and Mr. R. H. Gibson, F.R.I.A.I., President, R.S.U.A., at the Garden Party.

Sir Patrick Abercrombie (left) seen talking to Mr. MacQuitty at the Garden Party. In the centre is the Lord Mayor.

conditions permit of the establishment of specialist hospitals of a fair size, say 100-200 beds, for cases such as maternity, children, psychiatry, etc., surely the flexibility in planning and the esprit de corps thus gained, as well as the reduction in size of the central group, is worth considering?

By the same token we would like to quote the opinion of the matron of a large hospital in Northern Ireland on the subject of nurses' homes. These should be, she considers, like the houses of a public school rather than like a huge second-class hotel. They could have certain accommodation in common—dining, recreation rooms, etc. This she has tried on a small scale, and is delighted with it, but not with the architects of her hospital who have had regretfully to turn down her suggestion on the ground of the spatial inadequacy of the grounds.

Having invoked a living matron, let us now quote one who is no longer alive but whose name is forever associated with hospitals. These are her words :—

"Want of simplicity of construction in not a few hospitals is destructive to discipline. Effective and easy supervision is essential to proper care and nursing; and everyone knows that a patient may often be saved by careful nursing when everything else will fail. It is on this point that the hospital architect may either facilitate or prevent recovery to the extent to which his plan renders nursing easy or the reverse. Every unneeded closet, sculiery, lobby and staircase represents both a place which must be cleaned; which must take hands and time to clean; and a hiding or skulking place for patients or servants disposed to do so, and of which no hospital will ever be free. Every few minutes wasted upon cleaning what had better not have been there to be cleaned is something taken from, and lost by, the sick."

These ageless and severe reminders come from Florence Nightingale, and with them we conclude this Paper.

Modern School Buildings

During the Conference Mr. R. S. Wilshere, F.R.I.B.A., Education Architect, Belfast, read a paper on "Modern School Buildings." He began by giving a brief historical survey of ideas past schools have provided and expressed the hope that some moral might be drawn from past achievements in facing the future. We take the following extracts from his subsequent remarks :—

To-day educational methods are changing. In the past it may be said pupils were sent to school to be taught, to-day pupils attend a school to learn.

The function of the teacher tends to become more and more that of a guide, philosopher and friend, rather than an instructor pushing definite ideas into his pupils.

The pupil is less and less expected to accept what it is taught; the idea behind education becomes more and more to develop the pupils' individuality, but at the same time to make the pupils realise they are members of a community and to adjust their own individuality to the group with which they work.

It calls for less regimentation and more freedom for the pupil and calls for more activity in place of book learning.

This new approach is brought out in the new regulations.

It may be said in the past, schools were more or less static, that is, pupils had fixed places in a definite room and the architect's problem was largely to provide rooms to accommodate a given number of desks arranged in a set pattern, only to be moved when the floors had to be scrubbed.

To-day the classroom tends to become a centre of activity and mobility.

Fixed furniture is being replaced by light movable furniture, which can be easily moved to provide different grouping and arrangements, or stacked on one side to leave the floor area clear.

There has been an increasing tendency for schools to sprawl more and more.

This sprawl has been justified on the grounds that "as walking is good exercise this does not matter." A better defence is that it gives a sense of space and freedom, a very desirable quality in any school building.

To-day, compared with the past, the pressure of economy on expenditure may be said to have almost ceased to exercise any control, but the last two years have shown us that even if we have unlimited funds to spend this can produce another obstacle, the lack of sufficient labour and materials to meet our demands.

The vast demands on the building industry, envisaged to-day in every branch of the social services apart from the enormous arrears of normal requirements, should be squarely faced.

This tendency to sprawl more and more means that there is obviously a large amount of building which is in effect unproductive, and I feel we should consider if we can reduce this.

Those who have seen the newer schools round Paris before the war must have been impressed by the sense of space they suggest, although actually they are relatively compact. This sense of space is largely achieved by the skill of the architect, and I would suggest the proper architectural approach is to secure these pleasing conditions by good æsthetic planning and design, as these French architects have done.

Building Regulations, 1944.

The Ministry of Education's "Draft Building Regulations, 1944" and "The Regulations Prescribing Standards for School Premises, 1944" lay down in very full detail the requirements that will have to be met in all the various types of new schools that will be erected.

The greater variety of this accommodation and the varying sizes of classrooms add to the difficulties of planning new school buildings, and these difficulties are increased by the adoption of the various functional requirements, which are now being laid down in the Codes of Practice prepared under the authority of the Codes of Practice Committee. The Codes of Functional Requirements of Buildings, to which reference will be necessary, cover daylight, sunlight, ventilation, space and circulation, noise, fire, weather precautions, services, water supply, etc., heating and heat insulation, corrosion, dirt and vermin, and acoustics. These codes will have to be followed where applicable.

It is not possible to deal with all the new requirements in detail.

In the new regulations school meals now become an essential feature of all schools whatever their size. Gymnasium and changing facilities become of more importance. But the assembly hall, the importance of which for dramatic and other purposes has been increasing and the importance of which for outside purposes, until the building situation eases is very extensive, appears to receive no special consideration that one might expect.

The planning of schools will, however, be dominated even more in the future by the so-called functional requirements, and I propose to deal with the more important of these.

Daylighting.

The first practical approach to lighting of classrooms was the introduction of left-hand lighting.

The investigation by the N.I. of I.P.

carried out in 1931 dealt largely with the influence of lighting conditions on the pupils' work.

These investigations showed the rapid diminution of daylight the further the pupil is seated from the window, and that the quantity of light affected the quality of their work.

Daylighting in buildings and particularly schools has as a result now received considerable attention and the Post-War Building Study, "The Lighting of Buildings," deals extensively with this problem in relation to schools.

It had been generally accepted that the tolerable daylight factor in offices was 0.2 per cent.

In 1929 Sir Felix Clay had claimed 1 per cent was the minimum necessary in schools, which corresponded to a daylight factor of 0.5 per cent., a figure recommended by Mr. Waldram in 1913.

The Board of Education in their regulations of 1936 recognised this standard and laid down this figure as a minimum.

The N.I. of I.P., as a result of their investigations in 1931, considered that a daylight factor of 2 per cent. was desirable and 1 per cent. the lowest permissible figure.

The Lighting Committee of the Building Research Board, however, advocate 5 per cent. as a minimum, and this figure has been recommended as the standard to be aimed at in the Ministry of Education's new Building Regulations, with the higher figure of 10 per cent. where rooms are used for drawing, sewing, etc., and at the same time recommends maximum values should not exceed minimum values by more than 1 to 2, but still allow a minimum of 2 per cent.

In modern schools with a large expanse of glass on one side the daylight factor will vary from 15 per cent. down to 2 per cent.

Thus a very difficult problem has been set if the new standard is to be reached and the only solution at present appears to be some form of top lighting.

This very high standard of lighting intensifies the conditions that larger windows have already created, the problem of glare, which it is recognised is not only unpleasant but is also harmful.

The Lighting Committee would therefore like more control to regulate daylighting, but any system which is dependent on the teacher cannot be really regarded as satisfactory.

In Post-War Building Studies No. 12 a classroom is shown which employs a number of vertical baffles and horizontal hoods and comment is made that the distribution of light is very even and the baffles and hoods would eliminate glare, so that whilst standards of intensity are lower than desirable, I suggest good conditions may compensate for this.

I, personally, am not aware of any conclusive evidence that can be said to show this very high standard of lighting is essential to protect the eyesight, and there are, of course, experts who definitely disagree with its necessity.

It may yet be that this excessive zeal for light may have to be modified, as have other ideas which have dominated school design from time to time.

Top lighting has many drawbacks, it calls for more elaborate construction and more or less restricts building to one storey; it creates heating problems, provides a maintenance problem both to keep the glass clean and for repairs. Top lighting in schools is not a new idea and was at one time definitely objected to by the Board of Education. I, personally, have always found top lighting to have a peculiarly depressing effect, but this may be a purely personal reaction.

In view of all the complications that arise both in planning and designing a school to provide top lighting, I feel more evidence on this subject is called for.

One feels that here is essentially a problem to be investigated fully and that more schools on experimental lines should be built and tested.

It may be that bi-lateral lighting is a better overall solution or that the more fancy-shaped classrooms popular in U.S. may give a better and cheaper solution.

Ventilation.

The number of air changes in each room has now become a "Statutory Rule and Order" under "The Regulations Prescribing Standards for School Premises" and varies from six air changes per hour in classrooms to two air changes per hour in staffrooms, but we are not told how this is to be achieved.

If ventilation was the only problem to be found in planning a school and designing a classroom there is no doubt the principles developed by Dr. Reid in the Staffordshire Pavilion School with the low hopper on each side of the room and the open corridor provides a real solution.

Mr. Widdows claimed that in applying this principle to the Derbyshire Schools 10 sq. in. of hopper per child gave 10 air changes per hour with a wind blowing at four miles per hour to the face of the building.

The N.I. of I.P. have investigated the problem of ventilation in schools very thoroughly and no doubt the new standard called for is based on their findings and recommendations.

In some early investigations for the N.U.T. a certain classroom was found to have a pocket where there was never any real air movement, and by a coincidence the school authorities had noticed that pupils sitting in this part of the room never seemed to do so well either in examination or other work.

There is no need to stress the importance of ventilation; we are all aware of the discomfort we all feel where ventilation is bad.

The N.I. of I.P. recommend that the main school windows should have top sashes, pivot hung; centre sashes, side hung; and bottom sashes, hopper hung. With a window opening into the corridor it is considered that air movement and air change can be satisfactorily controlled.

The difficulty, of course, is that the operation of this ventilation falls on the teacher and where he or she does not like fresh air the system cannot achieve its object.

The N.I. of I.P. appears to be satisfied that with high opening windows directly opposite the main windows satisfactory air movement will be achieved, but points out that in corner rooms it is not enough to ventilate only from the two adjoining outside walls.

I would still like more evidence that the high-level window does make the necessary air movement where it is required; that is, at the children's level, as it seems to me the clerestory window is only a partial improvement on the old-fashioned ceiling ventilators.

Of course, in theory, perfect control could be obtained by mechanical methods, but there is ample experience in the past to realise the superiority of natural ventilation.

Acoustics.

There are three different problems to be met—(1) The acoustic treatment of the rooms themselves; (2) sound-proof construction; (3) planning of rooms in relation to each other.

It is now, of course, generally accepted that the assembly hall should be properly

Mr. J. O'Hanlon Hughes (left), Mr. Raymond McGrath and Mr. Ove Arup, at the Garden Party.

The Vice-Provost of Trinity College, Dr. Luce, with Mr. L. John Denman.

treated to provide suitable acoustic conditions.

I am satisfied that proper acoustic treatment inside the classroom can definitely provide less tiring conditions both for the pupils and the teachers.

Corridors call for special consideration, as they can be excellent conveyors and collectors of sound, and in this respect, of course, the open corridor, at one time so popular, provided an excellent solution.

As it is now possible, of course, to calculate the exact noise level caused by external noises entering an enclosed space, and sound entering by open windows, doors, cracks, heating pipes and vibration of the structure itself, particularly in steel-framed building with wall, floor and ceiling panels, the degree of quietness to be aimed at is that noise in a classroom should not exceed 35 decibels, in an assembly hall 30 decibels, and in others rooms up to 60 decibels.

To provide suitable conditions reacts on our planning and construction and calls for our enclosing space into what might be described as " noise zones."

It is well to remember that trees, shrubs and grass all absorb sound and are useful as sound breaks and can assist as a screen between noisy play areas and classroom units.

Flexible Planning.

The basis of the architect's contribution should be to temper efficiency with beauty. If material super-efficiency is all that is required we should not waste our time with æsthetics, but concentrate all our energies on science and engineering.

It sounds attractive to design a building so that it can easily be altered to meet future needs, but would any of the earlier types of schools I have referred to really lend themselves to this even if built of some light materials? It is possible that in most cases it would be a better economic procedure to face up to demolition of a building which no longer serves its purpose.

So let us be careful how much of our special contribution to the community which it is our privilege to give is sacrified for an idea which may not be satisfactory in actual practice. How many of us really believe that to replace Oxford and Cambridge with a complete set of new and up-to-date buildings would prove to be a real educational advance? Is the idea that we should build our structures so that they will only last a few years really quite so rational as it sounds where education is concerned? Should there not be at least some permanent nucleus around which a school may develop?

We should weigh very carefully in the balance prefabrication and structures whose only justification is that they may be flexible enough to meet the unknown needs of the future, but equally we certainly should not condemn the idea; it must have its place and purpose and it is for us as architects to find the true solution.

Royal Designers for Industry.

The Council of the Royal Society of Arts has this year made the following new appointments to the Distinction of Royal Designer for Industry (R.D.I.): James Gardner, Exhibition Design; Robert Y. Goodden, Industrial Design; Ashley Havinden, Commercial Art. The following foreign designers receive the Distinction of Honorary Royal Designer for Industry: Alvar Aalto, Walter Gropius and S. E. Rasmussen.

CORRESPONDENCE

[Whilst we are glad to publish letters on professional and other matters of interest to our readers, it must be understood that we do not necessarily endorse the remarks of correspondents, who will oblige us if they will express their views as briefly as possible.]

The R.I.B.A. and Trade Unionism.

TO THE EDITOR OF *The Builder*.

SIR,—Following the publication of my letters in your columns on the above subject, I have received so many kind letters that I should like, first, to thank you very much for publishing them; and secondly, to thank these colleagues for their interest and kindness.

These letters range from the humblest clerk of works to the editor of a well-known Journal. With one accord they applaud my action, and as one of them says, *a propos* of my being expelled from the A.B.T. for defending the R.I.B.A., their action is " almost bewildering in its evidence of the mentality of those running the A.B.T."

Well, don't let us be bewildered; let us examine the facts and draw our own conclusions. These are the men who align themselves with Mr. Shinwell when he says " the organised workers of this country are our friends, the rest don't matter a tinker's cuss," and yet at the same time find themselves designing, for example, the new headquarters of the Communist Party and the *Daily Worker*, but as private practising architects. The best of both worlds seems to be desired.

But they have 650 automata, who will record their vote for anybody the Party tells them to. And this is the kind of fact one has to realise. Unless the members of the R.I.B.A. will accept their full responsibility these types will be running the Royal Institute, and people will wonder how it happened.

It has been suggested that prominent supporters of the A.B.T. in the R.I.B.A. are innocent victims of a plot. If they are, I see no words to refute my allegations, either from the A.B.T. or these private members themselves. If they are too busy to refute, should they wish, then surely they are too busy to represent us on the Council. No, we must assume that they condone all the policy I have mentioned of the A.B.T. Or, it is perhaps they have their eye on the block vote of the A.B.T. and don't wish to show their hand either way just yet?

I shall continue to show my hand on every possible occasion when resisting such tyranny as this, and I trust those members of the R.I.B.A. who have not already done so, will do so.

I should like to answer one or two points which Mr. Campbell raises in his letter in *The Builder* of June 6. I seem to recollect the same cry in the case of the miners for more money, better conditions, fur coats for their wives, etc., and then " we will produce more coal." They got more money, and they got shorter hours, and we get less coal. And this is immediately followed at Margate with another demand from Mr. Horner for still more money, etc. The fact that they claim they can produce more under different conditions suggests that they are not doing their best now. In the case of all these extreme Left Wing demands there is an irreconcilable difference between their words and their deeds.

As to the annual meeting of the A.B.T. and the speech of Mr. Campbell, I raised there the question of dictator methods, or, to quote Mr. Tickell in his report of the meeting: " Immediately a bulky figure reared up, gave his credentials, Walker, unattached to any branch, and in fiery and vehement terms, began to denounce the Executive. Such 'directives' from the platform, he declared with Churchillian violence, were a negation of democracy." My words, their reporter. And, lastly, may I point out that this correspondence started because of an unfair attack on the R.I.B.A. by a number of its members under the guise of the A.B.T. Might I venture to ask why these 650 members of the A.B.T., who are also unhappy members of the R.I.B.A., remain so?

In reply to Mr. Hope, I would say this, that if he imagines for one moment that I shall lay down my pen, when freedom is threatened from any angle, once the R.I.B.A. elections are over, he is most sadly mistaken.

London, S.W. WINSTON WALKER.

Building by Local Authorities.

TO THE EDITOR OF *The Builder*.

SIR,—In your leader of June 13 you refer to the difficulty of an official exercising independence of judgment. There is no such difficulty. Moreover, an official cannot be displaced without serious grounds and considerable publicity, whereas it is comparatively easy for a not-too-scrupulous member of a local authority to ensure that the private practitioner who is too " independent " is replaced on future work by someone more accommodating.

I have yet to meet the private architect or quantity surveyor who is more ready to part with a client than the same man would be to resign from a salaried position—and with reason, for an active enemy can do a lot of damage and the private practitioner cannot transfer his practice elsewhere in the same way that his colleague is free to obtain another job. In addition, fees are based on cost, but salaries remain constant (more or less).

I hope you recognise, as I do, that both my arguments and yours are on the theoretical plane—in practice a man's character is not influenced by his mode of remuneration.

As regards your other points, most local authorities are guided by business men, and I do not think you need be concerned at the possibility of a large number of " new " officials being appointed without reference to future work. What may happen is the appointment of some architects and quantity surveyors as " assistants " to the Engineer, saving, perhaps, £500 per annum as against a new departmental head.

This brings me naturally to the difference between cost and production—it is quiet feasible that a direct labour scheme with production no better than in private enterprise will nevertheless save money, because the official in charge will be in receipt of a salary very much lower than would be regarded as reasonable by the principal of a firm (and this disregards sleeping partners and shareholders).

I hope you will find room to publish the first part of my letter at least, because I am jealous of my professional integrity as a local government official, and it has seemed to me lately that there is a tendency for the probity and independence of the private practitioner to be emphasised at the expense of salaried members of the professions.

A. R. G. EVENDEN, F.S.I.

Porchester, Hants.

STRUCTURAL CARE OF ANCIENT CHURCHES

A PAPER BY MR. LESLIE T. MOORE

A CONFERENCE of representatives of Diocesan Advisory Committees for the Care of Churches (Northern Province) was held at St. William's College, York, from June 3 to 6, when many interesting papers were read, including the following one by MR. LESLIE T. MOORE, M.C., F.R.I.B.A.

The subject of my talk, "The Structural Care of our Ancient Churches," said Mr. Moore, is one of increasing responsibility, especially after the war years during which little could be done beyond general upkeep, and now materials are scarce and skilled craftsmen difficult to find.

There is a curious belief among laymen and clergy too that a church building will last for ever without much maintenance. Strangely, only in regard to fire—a rather remote danger—is the building taken care of by insurance, and this often for an inadequate sum. All pre-war policies should be doubled.

The inevitable decay and ill-health of the building—constructed of more or less perishable materials and subjected to all the elements—is rarely fully considered. A repair fund or period policy, not only for current repairs but for major works, is as important as a fire insurance.

With a car we insist on a regular overhaul and systematic attention to arrest any trouble, but we do not seem to realise that buildings are extremely costly and fragile things—until we come to build or repair them. Regular inspection is essential for the preservation of an ancient building. The architect very often sees that the neglect of minor defects has been allowed to continue, with the result that a major operation becomes necessary which a stitch in time would have prevented.

Damp and Decay.

Of all the natural causes of decay in building materials damp takes priority, and all sources of damp should be carefully traced and protection secured. The mediæval builders did not as a rule provide dampcourses to their walls, though the mason carefully introduced such features as throated string-courses and weathered hood-moulds to doors and windows for the purpose of throwing off the water from the wall surfaces.

A secondary cause of decay in all building materials is the climatic variation in atmospheric temperature, humidity and condensation, producing expansion and contraction. The combination of damp and rapid changes of temperature produces very serious conditions, the ill effects of which can generally be seen on the south side of a church, whereas the materials on the north, with its comparatively equable temperature, are in a much better state of preservation.

A moist heat germinates disease, dry rot in timber and other fungoid growth in which insect life thrives. As an illustration, a leaking lead gutter constructed on wood, where the sun plays all day, is an incubator for such troubles.

Ventilation is the natural cure for these ills, but how rarely is it adequately provided in our churches. Though warmth is essential there is little doubt that the attack made on oak roofs by the beetle is aided thereby. Thorough cross-ventilation, which can usually be obtained, is essential if materials are to be preserved in a healthy state.

In dry weather all window casements and doors (including the west door) should be kept open whenever possible and so create a current of air through the building. Damp walls are cold walls and no amount of internal heating will cure this condition without ample ventilation.

The mediæval carpenter often exposed the ends of the tie beams to a roof on the outer face of the walls, so ventilating the end grain of the timber at the important bearing point, and in such cases the beams are generally found to be sound. All wood should be kept dry. Care must be taken not to introduce sapwood in repairs.

Stone and brick are best preserved by exposure to the air. Roofing tiles and slates will perish if the undersides are not adequately ventilated. Nearly all building materials are to a certain extent porous and absorb moisture from the atmosphere. They must be allowed to breathe. It is a surprising fact that some common bricks will absorb their own weight of water and some building stones will do the same.

On most stones a protective skin naturally forms soon after quarrying, and similarly on brick and other materials; this should be carefully preserved. Some stones that are not laid as found in the quarry—namely the natural bed—will soon laminate and, though the exposed surface will harden, decay will probably continue until ultimately renewal becomes necessary. Another cause of surface decay can be traced to a leakage into the core of a wall saturating the back of the stonework—combined with the action of hot sun on the exposed face.

Decay is also often due to the crystallisation of soluble salts (calcium sulphate) below the surface, causing the hardened face to flake off. Sandstone may suffer from washings of calcium sulphate from limestone in contact with it. In any repair work the same stone the wall is built of should be used.

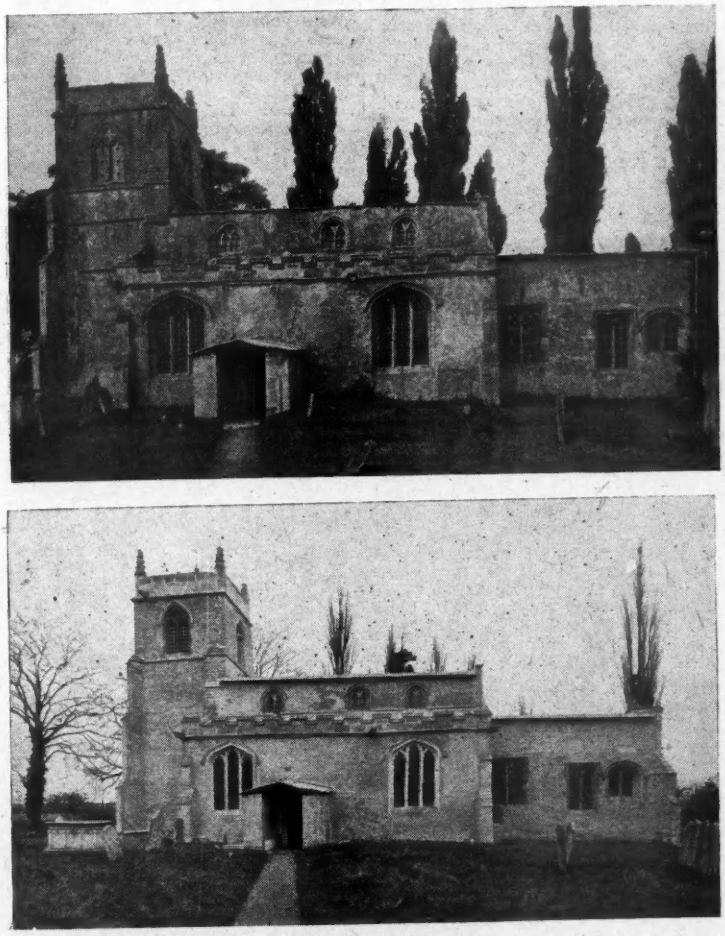
The surface of a stone that is kept clean rarely perishes, and this is particularly the case with limestone. Window-sills seldom show signs of decay, whereas the sheltered underside of a moulding or tracery is decomposed. Washing with clean water is the best preservation. In some cases water under pressure is necessary. Chemicals are inadvisable.

In exposed positions, erosion by wind may cause certain stones to blister in a distressing manner, especially sandstones. Unsuitable mortar is another cause of decay in both brick and stone walling.

In early times (11th century) much mortar was used with thick joints. The Normans often faced their walls with dressed stone about 7 in. or 8 in. square—a size easily handled—but the bond is poor. Their foundations were meagre and shallow and the core of the wall was filled with rubble.

In mediæval work the jointing gradually became much finer and more attention was given to bond; in fact, the jointing is the essence of its charm, the best masonry being built in narrow courses of three or four inches well bonded.

In dealing with a fractured stone wall



Shelton Church, before (top) and after restoration.

it is essential, in addition to grouting as necessary, to introduce long bonders to unite the sound parts throughout its thickness. Another method is to form binding courses of roofing tiles as a horizontal tie. This is particularly valuable in rubble walling where partial rebuilding may be required.

Flint Building.

Flint as distinct from building stone plays an important part in English church architecture, especially in East Anglia and the South, where there is little stone. Flint is very hard and durable; being non-porous it is immune to decay from frost. The repair of a flint wall is more often a matter of pointing than renewal. As a rule very full pointing, finished with a soft brush, is the practice to be recommended, and stone rubble walling is best treated in the same way. A skilled craftsman is needed to rebuild such walls. Lime mortar is used in quantity, and the work carried out very slowly. Small splinters or flakes of flint were stuck into the joints in mediæval work. This is called "galletting," and the flakes were used in a cunning way to overlap and fill every chink. The split or knapped flint, gauged to size and built in courses with fine joints, makes a very effective wall, especially when used in panels with a stone framework, as seen in the 15th-century churches of Norfolk and Suffolk. Internally the rubble walls were always plastered, and externally the lime mortar is so full that it almost amounts to a plaster finish.

Few mediæval churches were built of brick, for bricks were not generally made in England till Tudor times, though used extensively on the Continent. Brick is most durable and probably the best of all building materials. It is rarely affected by the sulphur-laden atmosphere in towns, as stone suffers. There are very good examples of late brick churches in Essex and on the East Coast, as at Hull and other places.

Mortar.

Whatever the material, the wall much depends on the composition of the mortar. The conclusion of the Government Building Research Station is that the properties of the mortar should be chosen to correspond approximately to those of the material of which the wall is built. For masonry the following mix is recommended: 12 parts fine crushed stone (by volume)—the same stone as that being used. Three parts lime putty or hydrated lime. One part Portland cement.

Where it is necessary to repoint stone or brickwork the joints must be carefully raked out to a depth of at least half an inch, without increasing the width of the joint. The new pointing should be well tucked in and finished flush with the wall face. It is important that the walling be well wetted before repointing and kept damp to retard setting. The pointing of a wall may entirely change the appearance. A waterproofing compound may well be added to the mortar in certain cases. Colouring matter is best omitted.

The use of a dense Portland cement mortar may accentuate decay in stone or brick by chemical action. Cement is very useful for grouting and any underground work but not for pointing or visible repairs. It shrinks on the first drying-out and expands on being wetted, and this process continues. All mediæval masonry was built with lime mortar with a coarse sharp pit-sand—or stone dust.

Lime plaster is considered an insignificant substance, but it played an important part in building throughout the mediæval period.

Internal Treatment.

Internal rubble walls were always plastered, and as a general rule ancient plaster should never be removed. The charm of the old method was effected by a thin coat of lime and sand plaster with its wavy surface following the irregularities of the walling, a wood float being used.

The treatment of external wall surfaces other than dressed stonework or brick varies considerably in different districts, and the local craftsmanship should be studied before any repair work is undertaken. Rubble walling often had a thin coating of lime mortar of the same mix the wall was built with; this is very effective and durable. When a definite plaster coat on brick or stone is found to be defective, it is important to discover why it was adopted in the first instance and the cause of its failure before proceeding with any repair work.

Any plaster work that has lost its key should be removed and the walling thoroughly cleaned and wetted before making good with material equal to the original.

Limewash was invariably used internally and externally on plaster and stone. In mediæval times this was carried out annually, partly as a disinfectant (plague), and even to-day it is a common practice in rural Ireland. Limewash is an excellent preservative and costs little; indeed, it is an economy in the saving of artificial lighting. A little ochre or ivory black may be added to the wash to prevent it looking blue. For a time the subtle differences in texture and colour between individual stones by weathering are lost, but the advantages outweigh this.

Ivy and Creepers.

Ivy is most damaging—it disintegrates mortar and even grows in the wall. Great care is needed in its removal. It is best to saw through the stems a few feet above ground leaving it to wither and then stripping it off without disturbing the wall surface. The roots should be carefully removed and the walling repaired as necessary.

Ivy and creepers allowed to grow over a roof very soon lift the tiles and leakage occurs. Trees and large shrubs should not be allowed too near a church.

The underpinning of walls should only be undertaken when it is absolutely essential to provide a new foundation. Mediæval walls were sometimes diminished in thickness as they were carried up and so are apt to appear out of plumb and unsafe. It is generally preferable to build a solid buttress of simple design well bonded to the old masonry and in scale with it rather than to rebuild the wall. When new stonework is unavoidable care should be taken to see that it is given the right surface finish. It should be hand-dressed or left from the saw—following the old work and avoiding the use of large new stones. In some cases a flying buttress is preferable having its foundation some distance from the wall to be buttressed.

If failure is due to the disintegration of the core of the wall a more serious method of grouting or under-building may have to be resorted to. The exact treatment must depend upon what is found necessary in each case. Any major work of reconstruction should be dated with inch incised figures.

In all repair work local materials and traditional methods in their use should generally be adopted. The product of a locality weathers best in that district. Modern manufactured materials should be used with caution.

Corrosion of Iron.

The corrosion of iron used in conjunction with other materials is often the cause of damage. Iron cramps were used to bind stone to stone and are frequently found in copings to gables, parapets and pinnacles where the iron cannot be painted. A protective covering of molten lead as sometimes adopted is of little value. The corrosion of the iron fractures the masonry with irresistible force. Its use should be eliminated and non-corrosive metals substituted. The mediæval mason in some cases used mutton-bones set in lime mortar with good effect, the knuckles and tensile strength of the bone serving the purpose with durability.

Iron smoke flues cannot be tolerated; the action of damp and heat fortunately soon destroys such makeshifts, but not before damage has been done to the structure where flues pass through wall or roof.

It must be pointed out that to repair or raise a stone chimney stack in brick or by means of a domestic chimney pot, is incongruous. If it is necessary to build a chimney its design and relation to the building needs very careful study. The sweeping of flues is often neglected in churches.

When inspecting the condition of a church it is a good practice to examine the exterior first, for not only can the history of the building best be seen, but most structural needs can be detected and studied. The tracery of windows is more effective externally and assists in confirming the period of the building. Incidentally, it is distressing to find how many gable crosses are missing, or parts missing. They are very telling features, being on the skyline.

The collection and disposal of rainwater are most important. In early mediæval buildings dripping eaves were common, and under certain conditions quite a sound principle; later parapets with concealed gutters behind were introduced, the water being thrown off by projecting gargoyles. Lead down-pipes were later adopted. Parapets were probably introduced not only for appearance but for the practical advantage in repairing roof coverings.

Iron eaves-guttering and down-pipes, now commonly used, are comparatively modern and the source of much trouble, as they need to be regularly painted for preservation and renewed when fractured. Such corrosive metal is not suitable for rainwater pipes, as it is impossible to paint them internally, and square pipes fixed close to the wall or in angles cannot be painted at the back where the metal is invariably in a state of corrosion and is fractured by frost. Circular pipes are better. These, if fixed 1½ in. away from the wall face, can be painted, and should the pipe become blocked the water will run down on the outside of the pipe without damage to the wall. To allow for expansion, it is best not to joint the pipes. The sockets of pipes that have been securely jointed are often found fractured and leaking.

Iron guttering must be regularly painted internally as well as externally, and the joints kept watertight with red lead. Equally important are the fixings and stays to guttering, also the preserva-

tion of gradient for drainage. Asbestos and even aluminium pipes and gutters not needing paint are being adopted now, but such are not desirable for churches

Use of Lead.

Lead is the best non-corrosive metal for rainwater pipes; although the first cost is greater than iron, it is the last, as no paint is required and upkeep is reduced to a minimum if the pipes are well fixed, allowing for expansion and contraction.

The durability of lead makes it most suitable for monumental buildings; copper pipes are equally durable, being non-corrosive and not needing paint, and this metal is suitable for eaves gutters. Lead is the more traditional metal in England and should be adopted where a replacement of pipes becomes necessary.

The neglect of a leaking lead gutter behind a parapet, or in a roof valley, leads to serious consequences, as the woodwork beneath rots and water percolates into the core of the wall below. The relaying of such a gutter needs a skilled plumber, for the mediæval lead was cast, a quality much superior to the commercial milled lead of to-day. The old lead should be recast for the repair work, and the defective woodwork under the gutter may well be replaced with fine concrete—preferably reinforced laid to falls and finished with cement rendering. Felt must be laid under the lead to prevent the cement attacking the metal. Similarly, lead on roofs should be laid on rough deal boarding and not direct on oak, the tannic acid in which decomposes lead. Proper drips must be formed in the length of gutters for the jointing of the lead.

Much could be said in favour of the mediæval gargoyle for throwing rainwater clear of the wall, particularly from the roof of a tower, for an iron pipe is unsightly and impossible to paint or repair without scaffolding. Gargoyles were often set diagonally at the angles of the building so that the water might be blown clear of it.

The protection of a wall against damp at the ground line, where it is most vulnerable, makes the disposal of rain water very important. Where the level of the ground is above that of the church floor a channel drained to gullies is necessary and its maintenance to render it watertight imperative. All joints must be thoroughly grouted, particularly where the channel abuts the wall, otherwise vegetation will grow and the channel becomes useless.

Gullies with earthenware drains to soakaways or a main drain are necessary at the foot of all rainwater pipes and they must be kept clear of debris, for continual concentrated moisture is very destructive at the base of any wall. Water butts should never be placed near; they overflow and are often the cause of infinite damage. Any tank for the collection of rainwater should be several feet from the building with an adequate overflow or soakaways arranged. It is unnecessary to say that *all* gutters, rainwater heads and gullies should be cleaned out at least twice a year

The Roof.

The restoration of roofs is a large subject and cannot be properly dealt with here, but it should be noted that where the timbers appear defective, or faulty construction is evident, expert advice should be sought

There is no substitute equal to a cast-lead roof covering except, perhaps, copper, but it is not often used in England. Expansion and contraction of lead due to the heat of the sun are its common failing and cause the lead to "creep" downwards if not properly fixed. It should never be secured with nails driven through it. The correct method is by means of lead tingles fixed to the boarding and turned in with the welt. Some defects in lead can often be made good by very carefully fusing the metal—solder should not be used.

The character and charm of a tile or slate roof can easily be marred by executing repairs with inferior materials. Machine-made tiles should never be introduced nor thin Welsh slates, in a roof covering of a better quality. Any new tiles or slates must be of the same tone, size and quality as the existing ones. The common causes of defects are the use of iron nails and their failure through corrosion, in which case the roof must be stripped and relaid using copper or non-corrosive nails.

Sometimes it is found that the underlying wood battens on which the tiles or slates depend are at fault and stripping the roof becomes unavoidable to renew them. Double battening is advisable and the new wood should be creosoted under pressure.

The type of roof covering should never be changed, for the pitch of the roof is invariably only suitable for its original kind of covering.

Mediæval open roofs were boarded in oak; since the 18th century some church roofs have been plastered internally between the rafters, for warmth. Time has proved this to be a most unfortunate practice, for with leakage and constant movement from wind pressure the key of the plaster is broken and a dangerous condition is created. The plaster is best entirely removed and a modern ceiling board having the same acoustic and thermal properties as plaster substituted.

Towers and their roofs are often sadly neglected; they are much exposed, particularly their parapets, and defects may easily become dangerous. The condition of the church roofs can generally be seen to advantage from the tower, a point of view which should not be missed when inspecting the structure. Any loose masonry on the east elevation of the tower, which incidentally cannot be easily detected from the ground, may cause costly damage in falling on roofs below. Access to all roofs both for external and internal examination should be kept in order.

The fixing of flagstaffs and weathervanes on towers is frequently the source of damage. To withstand the strain of even a moderate-sized flag the post invariably has iron stays from the parapet; by these, constant vibration is transmitted and the corrosion of the iron attachment loosens and damages the masonry. The fixing of such poles on ancient roofs which were not constructed for them is to be condemned.

All open belfry windows should have bird wire internally; a small mesh copper-wire guard fixed on a frame is best for durability. Any accumulation of bird droppings causes decay in timber, and birds often attack lime mortar inside towers in a remarkable manner.

Bell Towers.

The hanging of bells in our ancient church towers needs much more care than is usually given. Most of the early towers were built for refuge and fortification and later to the glory of God—with spires in stone districts, and a small number of light bells which probably only chimed.

In future we are more likely to construct underground crypts as shelters rather than towers, so the preservation of our fine mediæval examples is very important. It should not be forgotten that the change-ringing of bells as we know it, was not introduced till late in the 17th century, when more and heavier bells were often added, and that the mediæval towers were not built to withstand the considerable strain involved. The thick walls of some towers faced with coursed stone inside and out may be very deceptive—for it is the condition of the core of the walls that matters.

Many towers are structurally weak in having no horizontal tie in the whole height. This is an important point, structurally.

To reduce strain, bells should be hung as low as practicable—the sound from a bell emanates when the mouth is up—and the bell frame is best arranged if possible well below the belfry windows, and so more protected from the weather.

Wood frames should not be hastily condemned on account of some decay—they can often be repaired. Metal frames need painting and if neglected corrode.

On the Treatment of Woodwork.

Oak is best left in its natural state. Oil spoils it and destroys the beautiful ash-grey tone of natural weathering. Fortunately linseed oil is now in short supply! Varnish should never be used; it seals the pores of the wood so that it cannot breathe—ultimately causing decay. White beeswax and a little turpentine can be used if the wood surface is rough—and a little soft soap is permissible on the external face of oak. The treatment of Victorian pitch pine seating is difficult; after removing the usual varnish it can be effectively painted.

It is remarkable that the windows of a church are very seldom, if ever, cleaned. All old, clear glass should be as carefully preserved as the stained glass, for it is generally that known as crown glass, and is much more beautiful than modern sheet glass, having a slight convex surface, giv-

ing an effect of sparkle to the appearance of a window.

The diamond-shaped pane was adopted for economy in cutting up the blown and spun circle that crown glass assumes in its manufacture. Water drains off the diagonal lead cames better than if horizontal, and this practical advantage combined with its distinctive brilliance, increased the popularity of crown glass. It is only during the last century that glass has been produced in large sheets.

When the leadwork has to be renewed, all the old glass should be re-used, even cracked panes, and the lead cames should be stout convex, and half an inch in width and conform to the original pattern of leading.

Windows are cold surfaces, and draught and loss of heat are often caused by defective glazing. When new, clear glass is required crown glass might well be adopted; it gives life to the building. In any new glazing the proportioning of diamond pane quarries is most important.

All existing ventilating casements in windows should be retained and made serviceable. They are generally of wrought iron which, if well painted, does not corrode, as the modern steel casement is apt to. Any new ventilating casements ought to be of a non-corrosive metal.

Wire guards to windows are a disfigurement, and generally needless. The fixing invariably causes injury to the stonework, and they often harbour birds' nests. If not of copper they should be removed.

Although the external iron stanchions and saddle bars to windows are frequently the cause of damage to stone, through corrosion, they should always be preserved as they strengthen the window and steady the mullions besides breaking the force of the wind, and giving the architectural sense of scale to the building. Neglect in painting this ironwork often leads to the splitting of the stone in which it is fixed. New saddle bars should be of a non-corrosive metal, or at least the ends where they are let into the stone.

Paving and Steps.

All stone paving should be retained and the original floor levels and steps preserved. If it is necessary to re-lay such paving, a bed of cement concrete with dry brick rubble under is desirable to prevent damp rising. Plain natural stone is the best pavement; among other merits it reflects light, whereas the Victorian glazed encaustic tiles of many colours absorb light to a remarkable degree, and invariably become loose and noisy to walk on. Artificial stone or patent floorings are best avoided.

Wood flooring should not be laid contiguous to an outer wall; a margin of stone or good hand-made tiles is advisable next walls and near radiators or hot pipes. Care should be taken to ventilate thoroughly the air space under boarded floors.

Records.

All records of a mediæval building, reports on its condition, and dated photographs, are of great importance; and accurate measured drawings of the plan, elevations, and sections, are invaluable and ought to be very carefully preserved. Not only are they generally the result of much time and labour, but are costly to reproduce. Frequently they are the only exact evidence of alterations and repairs executed and they should show the heating system and drainage.

Parochial Church Councils should be urged to fufil their duty in the care, maintenance, and preservation of the fabric of their church, and so hand down to future generations our unique and priceless heritage.

A NEW CONCEPTION OF MANAGEMENT

2.—JOB ANALYSIS—(a) The What, the How and the Why

FROM A SPECIAL CORRESPONDENT

LAST WEEK we showed how almost every business is divided functionally into three component parts, namely, Sales, Production and Control, and how if the organisation of the least efficient part is improved the benefit is reflected in cheaper production costs, reduction of overheads and increase of profit. We do not propose to discuss improvement in the sales department at the present time, chiefly because most businesses to-day are operating in a sellers' market, and although this tends to reduce rather than to improve the efficiency in the sales department this is not immediately noticeable because of the plethora of orders which are being regularly added to the books. We shall devote our space in this article to an examination of the organisation in the production department with a view to improving efficiency there and consequently reducing costs.

The United States War Manpower Commission ran a "Division of Occupational Analysis," whose function it was to break down all tasks involved in the war-production programme into individual operations capable of being performed by workers who lacked previous experience or skill of the type of operation required to be done.

This division issued to its staff an analyst's workbook, which is a guide containing in outline form the basic concepts of job analysis as conducted by the division. This guide is based on a formula which begins by defining the job analysis as the determination of what the worker does, why he does it, how he does it, and the skill involved in the doing.

The guide is divided into three major sections; the "What, How and Why" of the formula are contained in the first section, which covers the information required for a clear, coherent picture of the work done. The skill involved constitutes the second section. The third section is devoted to the factors to be taken into account in selecting workers for particular tasks. Wherever practicable there are included considerations selected to guide the analyst (the personnel manager) in the type of information which should be obtained in the course of the analysis.

Although the concepts presented are those of the division, they are thought to be sufficiently fundamental to apply whenever clear and complete information about jobs is required.

WHAT THE WORKER DOES: What the worker does involves the physical and mental responses that are made to the work situation. Physically the worker may transport materials, cut, bend, grind, put together, make ready, set up, tear down, insert, regulate, clean, finish or otherwise change the position, shape or condition of the work by the expenditure of physical effort. Mentally the worker may plan, compute, judge, direct or otherwise govern the expenditure of his own or others' physical effort by a corresponding exercise of mental effort. In a given job a worker may expend any combination of physical and mental effort required by the task. In determining what the worker does the analyst must establish the complete scope of the job and consider all the physical and mental activities involved.

Most jobs involve more than one task, and each task may involve different physical and mental activities. The analyst must determine the tasks and report and describe them in precise terms so as to present a clear and coherent work picture. This may be done by describing the tasks chronologically or by grouping them according to their nature, depending on which creates the clearest presentation.

The considerations which the analyst has to take into account are the following, namely: What tasks have been observed in the job? Are there additional tasks which have not been observed? Are these additional tasks customary for all workers on the job?

Are the tasks included for the job performed by all workers designated by the job title? What is the frequency with which the tasks are performed? What is the relative difficulty of each task as compared with the rest of the tasks of the job? Has the data obtained by observation been verified with the proper authority?

HOW HE DOES IT: How the work is done concerns the methods used by the worker to accomplish his tasks. Physically this involves the use of machinery and tools, measuring instruments and devices and other equipment, the following of procedures and routines and the movements of the worker himself. Mentally the methods lie chiefly in the "Know how" that must be applied to the tasks. This may involve the use of calculations, formulas, the application of judgment or decision or selection and transmittal of thought. The worker may use a single method in the accomplishment of a task, or he may have at his command several alternative methods, any of which may be used with equal success.

In studying how the worker does his job the considerations which the analyst must bear in mind are the following:—

What tools, materials and equipment have been used to accomplish all the tasks of the job? Are there other tools, materials or equipment which have not

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been observed? If so how do they work? What methods or processes have been used to accomplish the tasks of the job? Are there other methods or processes in the plant by which the same work can be done? If so, what are they?

WHY HE DOES IT: The "Why" outlines the scope of the job and justifies the "What and How" of the work performed. The overall purpose, of course, is the sum total of the purposes of all tasks. Utmost care is necessary in ascertaining and recording the reason why each task is performed, both to clarify the overall purpose of the job in the reader's mind and to show task relationships as the job progresses to the completion of a work cycle.

The purpose may be the conversion of material from one form to another, the maintenance of conditions under which other jobs can be performed, the detection or prevention of errors, the development of new methods or the improvement of existing methods and so forth. Failure to explain this purpose will leave the impression that the job has not been reported completely, and tends to ambiguity in the description of the job.

The purpose, or Why, of the job is the first thing the analyst must ascertain in order to orientate himself for the subsequent analysis.

(To be continued.)

IN PARLIAMENT

The New Embassy in Rome.

MR. VANE asked the Minister of Works whether it was intended to build the new Embassy in Rome on the site of the existing building; who was the architect; and where the plans could be seen.

MR. KEY replied in the affirmative. He said the new building should be erected on the Embassy site, but the architect had not yet been appointed.

Prefabricated Houses.

MR. HEATHCOAT AMORY asked the Minister of Works how many prefabricated houses were in stock at the present time for immediate delivery and of what types; and whether they were available for sale to private individuals in need of accommodation.

MR. KEY said there were in stock about 6,790 temporary houses, 146 Swedish timber houses and 1,071 sets of structural components for Airey rural houses. Except for 22 Swedish houses required by the Forestry Commission, all had been allocated to housing authorities in Great Britain, and would be delivered as soon as sites were ready. None could be made available for sale to individuals.

Mobile Labour Force Hours.

LADY GRANT asked the Minister of Works what was the average number of hours worked during any typical recent week by a typical gang of his mobile building labour force.

MR. KEY said that the hours worked by the Mobile Labour Force were as laid down in the National Working Rule Agreement of the building industry. Those were in summer 44, or 46½, according to locality.

The £10 Limit.

SIR WALDRON SMITHERS asked the Minister of Works in view of the serious position in which small and medium-sized maintenance builders found themselves, if he would extend the £10 limit to £100 for all maintenance repairs and facilitate the granting of licences for work and materials.

MR. KEY said that the shortage of materials made it inadvisable to relax the controls by which they were directed to essential work. Licensing authorities were instructed to use their licensing powers in order to avoid local unemployment.

Repair Licences in London.

MR. PIRATIN asked the Minister of Works if he would state the number of licences and their value that had been granted for building repairs by his department during the last monthly period for the London region; the number of licences and their value granted by the local authorities in the same period in the London region; and, in each case, respectively, the amounts for housing and non-housing repairs.

MR. KEY said that during April last his Ministry issued in the London region 3,719 licences totalling £2,368,011 in value for repairs. £2,343,730 was for non-housing and £24,281 for housing repairs. During the same period, local authorities in that region issued 32,112 licences for repairs totalling £2,748,955 in value, of which £2,526,045 was for housing and £222,910 for non-housing work.

Requisitioned Flats.

MR. GRANVILLE SHARP asked the Minister of Works how many inexpensive flats and small houses were held by his department on April 30, 1947; and how many of these he estimated would be derequisitioned by June 30, 1947.

MR. KEY said that the number of inexpensive flats and small houses held by his department on April 30, was 1,571. It was estimated that 92 of these would be given up by June 30.

Cement Shortage.

MR. BAKER WHITE asked the Minister of Works if his attention had been called to the acute shortage of cement in East Kent; that, as a result, building operations were likely to be brought to a standstill; what steps were being taken to alleviate the situation and what degree of priority was being given to house building in the allocation of existing supplies.

MR. KEY said he was not aware of specific representations with regard to East Kent, but there was at present a widespread shortage of cement resulting from the recent shortage of fuel. The rate of production was now increasing and the supply would soon, he hoped, be reasonably adequate. The industry had been asked to maintain supplies for housing work so far as that could be done without prejudice to works connected with the production and distribution of fuel and power.

Licences for Industrial Repairs.

MR. S. MARSHALL asked the Minister of Works whether he would instruct local authorities to grant licences for repairs to industrial premises to be carried out where evidence was provided that the necessary materials and labour were available.

MR. DURBIN said that a licence would normally be granted if the necessary materials and labour were available and the requirements of other priority work were not prejudiced. The existing instructions to local authorities were in this sense.

New Factories.

Replying to Mr. Daggar, SIR STAFFORD CRIPPS (President of the Board of Trade) said that the total number of new factories and extensions of 5,000 sq. ft., or over, approved in Great Britain during the period July 31, 1945, to April 30, 1947 (the latest date for which information was available) was 2,483, of which 770 were in the Development Areas. It was estimated that when all these factories were in full production they would employ 159,940 men and boys and 129,240 women and girls, of which 76,380 men and boys and 75,320 women and girls would be employed in the Development Areas.

Of the 770 new factories and extensions of 5,000 sq. ft. and over approved in the Development Areas, 138 had been completed, or the firm was in occupation, by April 30, 1947. 461 were in course of erection on that date.

Rural Housing.

MR. HURD asked the Minister of Health if all houses built for agricultural workers were, for the purpose of the four-to-one ratio between local authority building and private enterprise building, treated as local authority houses; and how many houses in this category had so far been built.

MR. BEVAN said that houses built with subsidy under Section 13 of the Housing (Financial and Miscellaneous Provisions) Act, 1946, ranked as local authority houses for this purpose. The number approved for subsidy was 294.

MR. MARPLES asked the Minister of Health what was the reason for the number of claims for the agricultural subsidy for houses dropping from 607 houses on March 6, 1947, to 410 houses at March 31, 1947.

MR. BEVAN said that the figure of 410 related to the number of completed houses in respect of which local authorities had applied for agricultural subsidy. At March 6 his Department had been informed of 607 houses in respect of which local authorities had expressed an intention to let to agricultural workers when seeking approval for building. Neither figure fully indicated the proportion of new houses intended for agricultural workers and he was considering how a more representative figure could be obtained.

The Simon Committee.

MR. MARPLES asked the Minister of Works when the Simon Committee, appointed to report on the cost of building materials distribution, were expected to produce their report.

MR. DURBIN said that the committee were expected to report about the end of this year.

Register of Builders.

MR. BYERS asked the Minister of Works if he would state the number of people employed in considering applications for licences by building and civil engineering contractors to start business, all of which had been granted for the past 12 months.

MR. KEY said that the number of staff employed in maintaining a register of builders and civil engineering contractors had been reduced to 50, of whom 44 were located in 12 regional offices.

MR. BYERS asked the Minister of Works if he would state the reason for retaining the licensing of building and civil engineering contractors, in view of the fact that no application for such a licence had been rejected in the last 12 months.

MR. KEY said that the main reason for maintaining a register of building and civil engineering contractors was to identify the employers and thereby to obtain information as to the numbers of employers and operatives in the industry and their distribution throughout the country according to the type of work on which they were engaged; it was on that information that the planning of the building programme and the control of building operations depended. Registration was also required at present to secure the observance of certain conditions specified in Defence Regulation 56AB.

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BUILDING OPERATIVES IN CONFERENCE

MR. STEPHENSON ON PRESENT PROBLEMS

THE 30th annual conference of the National Federation of Building Trades Operatives was held in the Public Library, Scarborough, from June 17 to 20. Following are extracts from the presidential address, given by Mr. J. W. Stephenson, C.B.E., J.P. :—

What I desire to emphasise, said MR. STEPHENSON, is the need to clarify our aims and to use all the power of building trade unionism with the greatest co-operation, to achieve those aims. First, we must resolutely set ourselves against any return of the past : never again must we permit the building industry to become a casual industry as it was in the years between the wars, ill-organised, badly managed, spasmodic in its operations, with roughly 200,000 always unemployed. This idea must be destroyed together with the assumption that building workers were a mass of craftsmen and skilled labourers to be taken on and stood off as suited the circumstances, some to be selected, others set aside, as in a slave market, and generally thrust into idleness and misery every winter. The experience of the last winter should imbue every building worker with the resolve to take every means to be done with all that. The miners, with fixed determination, have completely broken with their sordid and tragic past. Building workers must do the same.

Second, we must rise, with adult intelligence and action, to duties and responsibilities now confronting us. We must see the building industry in a different way than formerly, conceive of it not merely as the medium of our livelihood, but as the instrument for our practical work in the service of the people and for expressing our community spirit. We must apply our thought and creative energy to the radical transformation of the building industry from its present muddled condition into the mighty tool of construction which the task before it demands.

At the present time the building industry is undergoing the greatest crisis it has known. The very nature of this crisis insists upon a great endeavour on our part. When we agreed to the augmentation of building labour when we accepted the Government training scheme, we did so on the understanding that there would be no shortage of materials or lack of means. Time and again we stressed the fact that it would be wasteful and ridiculous to crowd the labour market with skilled building labour unless it was made certain that they would have the tools and materials to do their work in an intelligent, orderly manner. We urged that there must be adequate supplies of every essential to building construction. Now where are we?

Grave shortages in all the primary building materials—there is shortage of plant, and craftsman's tools—this while the number of men engaged in the building and civil engineering industry exceeds 1,000,000. In face of facts, the Government has had to abandon the targets set in its housing programme. The local authorities are at their wits' end to meet their day-to-day commitments in respect of their local schemes. Men go to sites and find themselves frustrated. Production is hampered at every turn. The lack of balance of workers is more evident than ever. Inevitably pockets of unemployment occur here and there. There is an exodus of men from the industry because of low wages and bad conditions. Many labourers have gone to factories where conditions and wages are better, rather than work in the open with a chance of being frozen out or rained off.

No wonder there is chaos in construction. No wonder black market flourishes. No wonder there is a diversion of man-power and such materials as there are to non-priority work. No wonder employers pay more than the rates and give other inducements, while opposing the wage increase asked for and the frank, honest rationalisation of wages payments; and no wonder that many in our ranks, oppressed by need, disappear from housing jobs and enter into the desultory over-charged repair work.

Experience has taught us that only the Government and local authorities can know of, and fully appreciate, the housing and other building needs of the community. Experience has also taught us that only public enterprise, the enterprise of the people themselves, through their public authorities, can efficiently plan and organise to satisfy those needs.

As far as we are concerned, planned building offers the only solution to our industrial and economic problems. We shall always be subject to much unnecessary mobility, long distances from home, travelling from job to job, involved in wasteful travelling, so long as there is not the maximum planned building in the respective localities, so planned as to provide us with continuous local employment.

The building industry will always be chaotic so long as it remains the battleground of multitudinous firms. The reform we seek in respect to welfare on the sites, the provision of cover against weather, indeed the full recognition of our human rights can only be established on the formation of planned building.

The realisation of that makes plain the work before building trade unionism and the whole host of building workers. The most precious human faculty is enthusiasm. We must generate enthusiasm for the work among ourselves. Talk of incentives—we must create the incentive. Through 100 per cent. trade unionism, works organisation and joint production committees on the job, we must find full expression to our labour and skill, our energy and talents in construction, and give forceful impetus to the building production drive. Through concerted activity in local labour movements we must miss no opportunity for making the people building conscious and resolute in demanding planned building.

These are trying times, times that insist on the audacious acceptance and discharge of manly duties. They are days of greatness, testing days of effort and courage. Men are made great by the greatness of the work they set themselves to do. There is no greater work than ours. There is no greater movement than the movement of the people towards the socialist commonwealth.

TRADE NEWS

A Removal.

Messrs. Tarran Industries, Ltd., are moving their London offices to 7, Warwick House-street, Cockspur-street, S.W.1. Telephone : Whitehall 0595.

Collinstown Airport.

Messrs. Szerelmey, Ltd., 273-277, Rotherhithe New-road, S.E.16, inform us that Szerelmey Stone Liquid was used on the Collinstown Airport buildings illustrated in *The Builder* June 6.

Change of Address.

Messrs. Sharp Bros. and Knight, Ltd., joinery manufacturers, Burton-on-Trent, announce that their London office, previously at Earls Court-road, S.W.5, has been moved to Lion House, Red Lion-street, Richmond, Surrey. Tel. : Richmond 0165 and 0166.

"Coming-of-Age" Celebrations.

On Wednesday, June 4, a party was held at Battersea Town Hall at which the staff of Messrs. W. C. Youngman, Ltd., woodworkers and engineers, celebrated the 21st anniversary of the foundation of their organisation. During the evening the presentation of a silver bowl and an inscribed scroll was made to the governing director and founder, Mr. William Charles Youngman, the presentation being jointly made by Mr. F. S. Price, works manager, "Leda" Works, and Mr. L. J. Elliott, works manager, Wandsworth Works, on behalf of their respective staffs.

THE BUILDING EXHIBITION

THE Ministry of Labour, the Ministry of Fuel and Power and the Department of Scientific and Industrial Research are to be among exhibitors in the Building Exhibition at Olympia, London, from November 19 to December 4.

The Building Exhibition was first held in 1894 at the Royal Agricultural Hall and has been held every two years since then except during the two wars. The last exhibition was in 1938 and the forthcoming one will be the 22nd. Sir Lancelot Keay, P.R.I.B.A., has consented to be chairman.

Building and constructional work have undergone considerable changes since the last exhibition was held and they will be reflected in the exhibits, which will include many new materials and, on the engineering and contracting side of the industry, a number of labour-saving devices. Building operations and the erection of prefabricated units will be demonstrated at Olympia.

The Architectural Association is to have an exhibition to mark the Association's centenary this year. With over five months still to go to the opening of the exhibition 95 per cent. of the stand space, we are informed, is taken.

Building Science Abstracts.

The Department of Scientific and Industrial Research has issued Building Science Abstracts Nos. 1277-1411, compiled by the Building Research Station, Watford. Copies, price 1s. 6d. net, are obtainable from H.M. Stationery Office.

THE SCOTTISH BUILDER

NEW BUILDINGS

Dunfermline.—Dean of Guild Court approved plans for buildings for school meals at King's rd. school, Rosyth, at £4,000.

Earlfield.—Lanarkshire C.C. to erect at public school dining department, etc., for which the architect is W. Watt, Albert-st., Motherwell.

Fifeshire.—Education Authority to erect nursery school.

Glasgow.—Alterations and additions proposed for MacDonald & Brothers, Ltd., at New City-rd. and Stevens-st., for which the architect is MacGregor Mitchell, 30, Berkeley-st., Glasgow. —Additions and alterations for Kennedy MacLeod & Co., Ltd., for which the architect is M. Duncan, 243, Eglinton-st., Glasgow.—Alterations and additions for the Royal Scottish Academy of Music, for which the architect is W. Gladstone, 172, Bath-st., Glasgow.

Glasgow.—New school buildings proposed at Callendar-st., for which the architect is John MacNab, 129, Bath-st., Glasgow.

FUTURE CONSTRUCTION

CONTRACTS OPEN

For some contracts still open but not included in this list, see previous issues. Those with an asterisk are advertised in this number. The dates at the heads of paragraphs are those for the submission of tenders; a dagger (†) denotes closing date for applications; the name and address at the end refer to the person from whom particulars may be obtained.

BUILDING

JUNE 23.

†**Birmingham T.C.**—211 flats and maisonettes at Hutton estate, Washwood Heath-rd. Contract No. 17. City E. and S. Dep. £2 2s. Tenders by July 28.

JUNE 24.

†**Lancs C.C.**—(a) New stores block at Winwick Mental Hospital, nr. Warrington; (b) alterations to male and female mental blocks at Atherleigh Welfare Home, Leigh; (c) dispensary and stores at Jericho Institution, Bury; (d) erection and builder's work for hutted annexe at Jordan-st., Preston; (c) alterations for children's nursery at Rainford Hall, St. Helens. G. Noel Hill (F.), County A., County Offices, Preston. Dep. £2 each job.

JUNE 25.

†***Isle of Ely C.C.**—New urinal and 4 additional w.c.s at March grammar school. R. D. Robson (A.), County A. Dep. £2 2s.

JUNE 28.

Cornwall C.C.—School canteen at East End Primary School, Redruth. S. Pool, County A., County Hall, Truro. Dep. £1 1s.

Hoyland Nether U.D.C.—24 houses in 2 groups at Greenfield site and 6 houses at Kirk Farm site. D. E. Chadwick, Estates S., 53-55, King-st., Hoyland, nr. Barnsley. Dep. £2 2s.

JUNE 30.

Atherton U.D.C.—Two transformer houses. S.

Caine and Chippenham R.D.C.—14 pairs of houses and site works at 3 sites. Walter Rudman & Edwards, chartered architects, 32, Market-pl., Chippenham. Dep. £2 2s.

†**Crook and Willington U.D.C.**—46 houses at Low Mown Meadows site, Crook. C., Council Offices, "Glenholme," Crook, Co. Durham.

†**East Riding C.C.**—Erection of schools costing over £100,000. County A., County Hall, Beverley.

Holderness R.D.C.—16 houses at 3 sites. A. Tillotson, S., Council Offices, Skirlough. Dep. £2 2s.

Malmesbury R.D.C.—4 pairs of houses and site works at Hullavington; 4 pairs of houses and site works at Crudwell; site works at Gt. Somerford. Walter Rudman and Edwards, 32, Market-pl., Chippenham. Dep. £2 2s.

Merton and Morden U.D.C.—War damage and other works at (1) Merton Public Hall; (2) Central Library, Kingston-rd. E. and S.

Pontefract T.C.—80 houses in 4 groups. E. G. Crofts, architect, Market-pl., Pontefract. Dep. £5.

Southgate B.C.—Rent Collection Office at Barrowell-green. B.E. & S. Dep. £1 1s.

***Teignmouth U.D.C.**—12 houses at Coombe Valley estate. F. H. Clinch, S. Dep. £3 3s.

†**West Kesteven R.D.C.**—7 pairs of Airey houses at Bourne-rd., Colsterworth. F. J. Lenton and Partners, architects, 16, Finkin-st., Grantham.

JULY 1.

***Huntingdon C.C.**—Taking down, removal to new site, re-erection on new concrete and brick foundations and conversion of existing timber hutting for housing accommodation. T. H. Longstaff (F.), County A.

†***Lancs Mental Hospitals Board.**—36 houses at Winwick Mental Hospital, nr. Warrington. County A., County Offices, Preston. Dep. £2.

JULY 2.

†***Biggleswade R.D.C.**—4 houses at Northill with ancillary works. C.

†***Herefordshire C.C.**—Primary schools at Hunderton. W. Usher (A.), County A., County Offices, Hereford. (Approx. cost £60,000.)

JULY 3.

***Salford T.C.**—Erection of prefabricated concrete hut at Hope Hospital, together with necessary finishings and site works. City E. Dep. £1 1s.

JULY 4.

Bucks C.C.—4 pairs of police houses at Tatling-end. F. A. C. Maunder, County A., County Offices, Aylesbury. Dep. £2 2s.

Dover T.C.—Restoration of and alterations and additions to Stevens' Dyeworks. B.E. and S. Dep. £2 2s.

Liverpool T.C.—Primary school at Cantril Farm estate, Mab-la. City A. and Director of Housing. Dep. £2 2s.

Salop Standing Joint Committee.—2 pairs of police houses at West Felton, nr. Oswestry, and St. Georges, nr. Oakengates. A. G. Chant, County A. Dep. £2 2s.

Sandwich T.C.—39 houses. B.S., Guildhall. Dep. £2 2s

Warwicks Standing Joint Committee.—2 police houses and office at Ashlawn-rd., Rugby. C. H. Elkins, Shire Hall, Warwick. Dep. £2 2s.

JULY 5.

Weston-super-Mare T.C.—Rebuilding war-damaged houses and erection of pair of houses at Hill-rd., Worle. B.E. and S. Dep. £2 2s.

JULY 7.

Ballymena T.C.—40 houses with roads and services at Farm Lodge estate. McCarthy & Lilburn, chartered surveyors, 47, Scottish Provident-bldgs., Belfast. Dep. £5.

Brentford and Chiswick T.C.—Rebuilding 2 flats and 1 house at Brentwick-gdns. B.E. and S. Dep. £3 3s.

***Brightlingsea U.D.C.**—Houses at Chapel-rd. estate: (a) Two blocks of four; (b) five pairs. S. Dep. £2.

Central Hospital Visiting Committee, Hatton, nr. Warwick.—Works at Central Hospital: (1) 2 houses for junior medical officers and 16 staff houses; (2) 4 staff houses. C. H. Elkins (L.), Shire Hall, Warwick. Dep. £2 2s.

Droxford R.D.C.—8 Airey houses at 2 sites. A. L. Bishop, C., The Square, Bishop Waltham, Southampton. Dep. £2 2s.

***Gt. Yarmouth C.B.**—3 shops with flats over at North Denes estate. B.E., 15, Regent-st.

Haslingden T.C.—17 pairs of three-bedroom houses and 6 pairs of one-bedroom houses at Longshoot estate. B.E. and S. Dep. £2 2s.

Oldham C.B.—44 "Airey" rural-type houses at Limecide estate. A. L. Hobson, B.E. and S. Dep. £2 2s.

JULY 8.

†***Beaminster R.D.C.**—2 houses at North Bowood site, Netherbury. R. Leigh, C. Dep. £2 2s.

Berkhamsted U.D.C.—20 houses at Durrants Farm estate. Robert E. Hulse (L.), E. and S. Dep. £2 2s.

***Ilford B.C.**—Five blocks of three-storey flats at Budoch-dr., Goodmayes. L. E. J. Reynolds, O.B.E. B.E. & S. Dep. £3 3s.

Marshland R.D.C.—60 Airey at 3 sites. S. G. Bailey (L.), Council Offices, Alexandra-rd., Wisbech.

JULY 9.

Droxford R.D.C.—4 houses at Swanmore. A. L. Bishop, C., Council Offices, The Square, Bishop's Waltham, Southampton. Dep. £2 2s.

JULY 11.

Derby C.B.—4 shops at Sussex Circus, Roe Farm estate. Thos. W. East (F.), Borough Architect. Dep. £2 2s.

JULY 14.

***Hornsey B.C.**—45 houses at Springfield-ave. J. H. Melville Richards, B.E. & S.

JULY 16.

Cheshire C.C.—Reinstatement and completion of construction at Helsby Grammar School. E. M. Parkes (F.), County A. Dep. £2 2s.

Manchester T.C.—7 lock-up shops, 4 flats and 7 garages at Greenwood-rd., Northenden. City A. Dep. £1 1s.

JULY 17.

Brackley R.D.C.—16 dwellings at Middleton Cheney. G. Forsyth Lawson, 25a, High-st., Banbury, Oxon. Dep. £2 2s.

***Cosford R.D.C.**—44 houses at Pit Meadow, Lavenham. Edward Fincham (A.), 9, Palmers-ave., Grays, Essex. Dep. £2 2s.

***Cosford R.D.C.**—(1) 4 pairs of houses and laying of water main at Hitcham and Polstead, Suffolk; (2) 8 houses at Rockalls-rd., Polstead. Raymond Erith (F.), Dedham House, Dedham, nr. Colchester. Dep. £2 2s. each.

JULY 18.

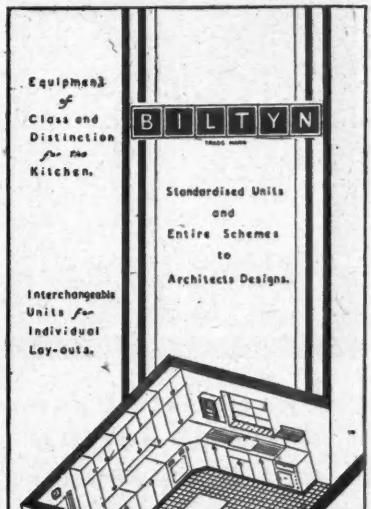
Durham T.C.—110 houses at Sunderland-rd. estate. City E. Dep. £2 2s.

NO DATE.

***Chatham T.C.**—12 shops with six flats over Wayfield housing estate. Stoner & Sons, quantity surveyors, 69, Lincoln's Inn Fields, London, W.C.2. Dep. £3 3s.

***Ellesmere R.D.C.**—30 houses at 4 sites. C. Dep. £2 2s.

***Essex E.C.**—Additions and alterations to w.c.s and ablution blocks at S.W.E. Technical School, Winns-ave., E.17 (approx. cost £3,500). Architect to the Committee for Education, Old Monoux Building, High-st., Walthamstow, E.17.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MISCELLANEOUS

JUNE 30.

Harrow U.D.C.—Demolition of Wealdstone houses. E. and S. Dep. £2.

Hornsey B.C.—Demolition and clearance of trench shelters. J. H. Melville-Richards, A.M.I.C.E., B.E. and S. Dep. £2 2s.

JULY 5.

Esher U.D.C.—Demolition of sunk and semi-sunk shelters and wardens' posts. C. G. Alderton, A.M.I.C.E., Council Offices. Dep. £2 2s.

JULY 10.

St. Albans T.C.—Demolition of shelters and C.D. structures. City E. and S. Dep. £2 2s.

PAINTING, ELECTRIC LIGHTING, MATERIALS, ETC.

JUNE 30.

Liverpool Corporation Water Works.—External painting of various premises at Brinxall and Withnell. Water Engineer's Office, 55, Dale-st.

JULY 1.

Poole T.C.—External painting at various schools. B.E. and S. Dep. £1 1s.

JULY 7.

***Isle of Ely C.C.**—Decorations and repairs at various schools. R. D. Robson (A.), County A.

Liverpool Corporation Water Works.—Painting, colouring and papering of various premises at Lake Vyrnwy. Water E., 55, Dale-st., Liverpool, 2.

ROADS, SEWERAGE AND WATER WORKS

JUNE 28.

†**Norton U.D.C.**—Roads, footpaths, sewers and water mains at Model Farm housing estate, Beverley-rd. Fred Vaux (F.), 31, Quay-rd., Bridlington. Dep. £5.

JUNE 30.

Belfast City and District Water Commissioners.—Construction of tunnel and intake works. D. McGarrigle, Secretary, Water Office, Belfast. Dep. £10.

Felling U.D.C.—Surface dressing of roads. S.

Harrow U.D.C.—Roads and sewers at Weald-la. estate. E. and S. Dep. £2.

Loddon R.D.C.—Laying of approx. 3,300 lin.

yds. of 6-in. and 9-in. dia. stoneware sewers, 35 pre-cast concrete tube manholes and construction of sewage disposal works, etc. W. Herbert Bateman and Partners, 167, Victoria-st., London, S.W.1. Dep. £3 3s.

Lyme Regis T.C.—Roads and sewers. Lucas, Roberts and Brown, architects and surveyors, Barnfield Hill, Exeter. Dep. £3 3s.

Macclesfield R.D.C.—Laying approx. 988 lin. yds. of 6-in. stoneware sewers, etc., at Henbury. J. H. Walters, E., 19, Moody-st., Congleton. Dep. £2 2s.

Rochford R.D.C.—Roads and sewers. E. and S. Dep. £3.

Wing R.D.C.—Preparation of housing site. H. A. Rolls, chartered architect, 15, Bridge-st., Leighton Buzzard. Dep. £2 2s.

JULY 1.

Bletchley U.D.C.—Concrete road and incidental works at Park-st. E. and S.

Driffield U.D.C.—Roads and sewers at Brickyard-la. site. A. Hornby, C. Dep. £2 2s.

JULY 2.

Bucks C.C.—Reconstruction of section of North Orbital-rd., A.412. County S. Dep. £2.

***Daventry R.D.C.**—Roads, sewers and water mains at Woodford. Sir John Brown, A. E. Henson & Partners, 30, Billing-rd., Northampton.

Ilford T.C.—Reconstruction of Kildowan and Staines-rds. B.E. and S. Dep. £2 2s.

Reading C.B.—Construction of approx. 500 yds. of 33-in. dia. concrete tube sewer at rear of Stone-st. Howard Humphreys & Sons, 34, Kings-rd., Reading. Dep. £2 2s.

JULY 3.

Clun R.D.C.—Laying of approx. 7,700 lin. yds. of 3-in. dia. asbestos cement water mains and construction of reservoir and erection of pumphouse. Jennings, Horner and Lynch, 3 and 5, Church-st., Brierley Hill, Staffs. Dep. £3 3s.

JULY 4.

Manchester T.C.—Street works at Collyhurst redevelopment areas Nos. 5 and 6. City S. Dep. £2 2s

St. Pancras B.C.—Development of additional land at East Finchley Cemetery. B.E. and S. Dep. £1 1s.

Stone R.D.C.—Construction of approx. 4,920 lin. yds. of sewer, etc., at Strongford Bridge. Tittenson, Willcox, Raikes and Marshall, 33, Gt. Charles-st., Birmingham. Dep. £5 5s.

JULY 7.

Hendon T.C.—Roads and sewers at Pursley-rd., Mill Hill. B.E. and S. Dep. £2 2s.

Horsham U.D.C.—Roads and sewers at Spencer Farm estate. E. and S. Dep. £3 3s.

JULY 8.

Hepton R.D.C.—Construction of reservoir, contract No. 1; erection of pumphouse, contract No. 2. A. Brooksbank, M.I.C.E., 14, The Exchange, Bradford, Yorks. Dep. of £2 2s. each contract.

JULY 9.

Portsmouth T.C.—Roads and sewers at Riders-la., Stockheath. City E. Dep. £5 5s.

JULY 10.

Kidsgrove U.D.C.—Street works at Park-ave. E. and S. Dep. £2 2s.

JULY 11.

Leicester T.C.—Roads and sewers at 2 sites. City S. Dep. £2 2s.

Towcester R.D.C.—Site works at Gayton site. Sir John Brown, A.E. Henson & Partners (FF.), 30, Billing-rd., Northampton.

JULY 14.

Grimsby C.B.—Roads and sewers at Nunsthorpe estate site, No. 2A. J. V. Oldfield, M.Inst.C.E. B.E. and S. Dep. £2.

JULY 16.

Denton U.D.C.—Construction of about 2½ miles of stoneware concrete-tube spun-iron and steel sewers, from 7 in. to 36 in. dia., with manholes, etc., and construction of sewage treatment works extensions. G. B. Kershaw & Kaufman, 1, Victoria-st., Westminster, S.W.1. Dep. £5 5s.

JULY 19.

Ely R.D.C.—Sewers, house connections, manholes, sewage pumping station, cast-iron rising main, and sewage disposal works, etc., at Littleport. C. Dep. £5.

JULY 21.

Nottingham T.C.—Laying and pointing of water mains at certain parishes. E. and general manager; Water Dept. Dep. £3 3s.

JULY 31.

Strood R.D.C.—Construction of sewers, rising mains, three pumping stations, ejector station and sewage purification works, etc. F. W. S. Stanton, M.I.C.E., 5, Victoria-st., Westminster, S.W.1. Dep. £5, payable to R.D.C.

PUBLIC APPOINTMENTS

Full details of Public Appointments open will be found in the advertisement pages of this and previous issues.

GENERAL BUILDING WORK

(LONDON)

Battersea.—HOUSING.—B.C. propose to acquire for housing purpose a site of approximately 8 acres in St. John's-hill.

Bethnal Green.—HOUSING.—B.C. propose to acquire site of 2.4 acres in Braemar-st. for housing purposes.

Bethnal Green.—NURSERY SCHOOL.—L.C.C. are to purchase site in Braemar-st. for nursery school for 80 children.

Camberwell.—FLATS: L.C.C. Housing Committee have approved tentative scheme for the development of the Downes-pl. site by the erection of 128 flats, at an estimated cost of £202,000.

Camberwell.—HOUSING.—Messrs. J. Garrett and Son, Ltd., Cathles-rd., Balham Hill, S.E.12, have been nominated as Apprentice Master for the construction of 24 dwellings on Site No. 1 (1-17, Ablett-st., and 113-129, Barkworth-rd.).

Camberwell.—HOUSING.—B.C. propose to erect 20 dwellings on the sites of Nos. 19-37 and 39-41, Hawkslade-rd. and Nos. 20-26, Athenlay-rd., under the Apprentice Master Scheme, at an estimated cost of £25,000.

Camberwell.—HOUSING.—Architects for various development proposals in the borough have been appointed by the B.C. as follows: Site No. 38 (Croxted House, 20-22, Croxted-rd., and 22-28 cons., Acacia-grove)—Mr. F. S. Paling, F.R.I.B.A.; Site No. 42 (131-135 and 143, Herne-hill)—Mr. G. E. Bright, A.R.I.B.A.; Cleve Hall, Champion-hill, and Cleve Hall annexe—Messrs. Howes and Jackman, FF.R.I.B.A.

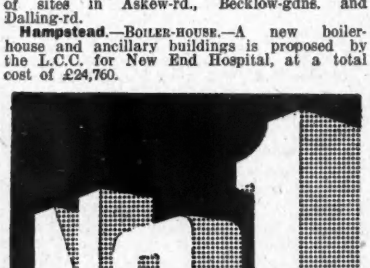
Camberwell.—SHOPPING CENTRE.—The architect to the Estates Governors of Alleyn's College has submitted to the B.C. a plan for the construction and redevelopment of the shopping centre at Croxted-rd. and Park Hall-rd.

Chelsea.—HOUSING.—B.C. propose to acquire for housing purposes the West Chelsea (No. 1) area, about 7.35 acres. Cost of acquisition, £220,000.

Fulham.—POWER STATION EXTENSION.—Messrs. Sir Robert McAlpine & Sons, Ltd., Park-ln., W.1, are the contractors for the civil engineering works in connection with the extension of Fulham Power Station. Approximate cost is £338,000.

Hammersmith.—HOUSING.—B.C. are to borrow £19,120 for the acquisition, for housing purposes, of sites in Askew-rd., Becklow-gdns. and Dalling-rd.

Hampstead.—BOILER-HOUSE.—A new boiler-house and ancillary buildings is proposed by the L.C.C. for New End Hospital, at a total cost of £24,760.



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Islington.—HOUSING.—120 dwellings are to be provided on the King Henry's-walk site, in a scheme prepared by the Henry's Walk Housing Co., Ltd.

Kensington.—HOUSING.—R.B.C. are to borrow £9,000 to acquire for permanent housing purposes fifteen properties in Lancaster-rd. and Grenfell-rd.

Southwark.—FLATS.—B.C. are to erect 76 flats on the St. Agnes-pl. site, at an estimated cost of £121,034.

Woolwich.—NURSERY SCHOOL.—L.C.C. propose at later date to erect nursery school for 80 children at the Bostall-ln. school.

(PROVINCIAL)

Abergavenny.—Welsh Board of Health approved final layout plans for 136 houses at Major's Barn and Llwyn sites.

Ashton-under-Lyne. — Lancs E.C. propose Health Centre and Welfare Clinic at junction of Cranbourne-rd. and Turner-la.

Burton-on-Trent.—E.C. propose school at Hill Side, at £85,000. Plans by G. Moncur, B.E.

Bury.—E.C. propose nursery school at Fishpool.

Carshalton.—Surrey C.C. to acquire site at Denmark-rd. for county college for part-time education.

Felling (Co. Durham).—E. A. Petrie, 2, Richmond House, Felling, prepared plans for garage at Wardley, for Wardley Garage Service Co., Ltd.

Halesowen.—North Worcestershire Joint Hospital Board propose modernisation of Isolation Hospital at Hayley Green. Plans by H. E. Folkes (F.), architect, 34, Hagley-rd., Stourbridge.

Helmshore.—Textile Machinery Makers, Ltd., 60, Huddersfield-rd., Oldham, propose conversion of buildings into research station.

Hindley.—J. Lowe & Sons, Market-sq., propose extensions at Liverpool-rd.

Longbenton.—U.D.C. to erect 119 aluminium houses.

Lowton St. Mary's.—W. L. Davidson, 26, Albany-bldgs., Mawdsley-st., Bolton, proposes 54 houses off Laburnam-rd.

Oxford.—City Council approved plans for office and store at Magdalen-rd., for F. Shurmer & Son (Oxford), Ltd., cabinet makers, Magdalen-rd.

Plymouth.—Tecalemit, of Brentford, propose factory on 59-acre site at Marsh Mills.

Prestwich.—T.C. propose 100 houses at Simister.

Rotherham.—T.C. approved: Factory, Eastwood Trading Estate, Fitzwilliam-rd., Mansfield Hosiery Mills, Ltd.; warehouse and garage, Nottingham-st., for A. Alcock & Son.

Salford.—E.C. propose County Primary school and nursery school at Summerville-rd., Pendleton; school canteen at Barrow-st. and Wroe-st.

Sheffield.—Ellis & Co. (Cutlery), Ltd., propose buildings at Carlisle-st.

Sheffield.—Pickford Tool Co., Ltd., Claywheels-la., Wadsley Bridge, propose extensions to factory.

Worksop.—S. Woodcock & Sons, Anglo Works, Holly-st., Sheffield 1, propose factory at Firbeck Aerodrome site.

TENDERS

* Denotes *accepted.*
† Denotes *provisionally accepted.*
‡ Denotes *recommended for acceptance.*
§ Denotes *accepted subject to modification.*
¶ Denotes *accepted by H.M. Government departments.*

Ainwick.—14 houses at Hope-la., by private enterprise: *Tully & Sons, Seahouses, Northumberland.

Amesbury.—20 houses at Winterbourne site, for R.D.C.: *James & Cockerell, Salisbury, £33,481.

Beeston and Stapleford.—62 houses at Ingham Nook estate, for U.D.C. S. C. Hardy, S.: *W. Westerman, Bye Pass-rd., Chilwell (10); *H. R. Hofton & Son, Regent-st. (16); *B. Rice, Wollaton-rd. (18); *J. R. Brough, Ltd., Station-rd. (18) (all of Beeston).

Bingley.—24 houses and 4 flats at Cullingworth site, for U.D.C.: J. S. Lattin, M.Inst.Mun.E., A.M.T.P.I., architect and surveyor. W. J. Woodiwiss & Co., Ltd., Station-rd., Cullingworth, nr. Bradford, £19,820 (16 houses); John C. Harrison, 8, Croft-st., Bradford, £10,738 (8 houses and 4 flats).

Bolton.—Alterations and additions at Springfield Paper Works, Belmont, for Charles Turner & Co., Ltd.: *F. & H. Douglas, Blackburn-rd., Astley Bridge, Bolton.

Burnley.—Six houses at Eastern-av., for R.D.C. F. Hewitt, S.: *H. & R. Clegg, Bridge-st., Burnley, £7,486.

Bury.—16 houses at Keswick-dr. and Redvales estate, for T.C. J. Chadwick, B.E., Municipal Offices, 28, Bank-st.: *Building Trainees, Direct Labour Dept., Bury Corporation (8); *G. T. Hughes, 2, Coniston-dr., Bury, £8,764 (8); 12 bungalows and flats at Huntley Mount: *Direct Building Dept., Bury Corporation, £9,800.

Camberwell.—Rebuilding Nos. 88-98, Red Post-hill, for B.C.: *R. E. Spooner, Ltd., £6,932.

Chorleywood.—Conversion of Chorleywood House into flats, for U.D.C. Richardson, Son &

Knowles, architects, 127, High-st., Rickmansworth: *George Darvill & Sons, Chorleywood, £2,383.

Durham.—Additions to carpet factory, for Mackay & Co., Ltd. Architects: Cordingley & McIntyre, The College, Durham City: *G. Gradon & Sons, North-rd., Durham.

Fazakerley.—Factory for T. & P. Jacobs, Ltd., Harry W. Weedon & Partners (F.), architects, 129, Lordswood-rd., Harborne, Birmingham: *William Moss & Son, Ltd., Roscoe-st., Liverpool 1.

Folkestone.—Houses for aged at Horn-st. site, for T.C.: *R. P. Davis, 16, Narrabeen-rd., Folkestone. £3,050 (subject to M.H. approval).

Garston.—Factory for Bryant & May, Ltd. Cruickshank & Seward (F.), 16, Princess-st., Manchester 1: *William Thornton & Sons, Ltd., 38, Wellington-rd., Liverpool 8.

Gateshead.—Temporary premises at Jackson-st., for Civic Restaurant, for T.C. H. J. Cooke, Chief Architect: *Direct Labour, £6,000.

Glasgow.—Factory at Strathcona-st.: *John Bryson, Ltd., 940, Cross-rd., Glasgow.

†*Hornsey.—116 flats at North Hill, Highgate, for B.C.: T. P. Bennett & Sons, 43, Bloomsbury-sq., W.C.1, architects. Quantities by Selby & Sanders, 25, Victoria-st., W.C.1. *Globe Contractors, Ltd., Beechwood-rise, Watford, £139,251.

Hyde. — Steel-framed garage for motor vehicles at Godley Hill-rd., Godley. T. Wall & Sons, Ltd., architects' Dept., Lever Bros., Ltd., London, E.C.4: *James Hall & Son, 133, Dowson-rd., Hyde.

Keighley.—26 bungalows at Bracken Bank estate, for T.C. E. G. Felgate (A.), Boro' A., 26, College-st.: *Ernest Turner, Ltd., Bradford-st., Keighley. £19,928.

L.C.C.—Reconstruction of Surrey Lockbridge. Horseley Bridge and Thomas Piggott, Ltd., Tipton, Staffs £119,510
Head, Wrightson & Co., Ltd., Thornaby-on-Tees 118,988
Dorman Long & Co., Ltd., Middlesbrough 113,304
A. E. Farr, Ltd., Westbury, Wilts ... 112,229
Paterson & Dickinson, Ltd., London, N.W.9 111,281
Cleveland Bridge & Engineering Co., Ltd., Darlington 108,855
*Sir William Arrol & Co., Ltd., 85, Dunn-st., Bridgeton, Glasgow 103,661
Comparable estimate of Chief Engineer, £98,286.

L.C.C.—Contract exceeding £2,500 in value placed by L.C.C. during period ended June 11: Supply, deliver, erection and maintenance for one year of automatic cold storage plant, etc., at the L.C.C. central food stores at Pinkhamway, Friern Barnet. Ernest West & Benyon, Ltd., 242, High-st., Bromley, Kent.

Liverpool.—Buildings at Red Cross-st., for Birchall's, Ltd. A. E. Shennan (F.), North House, 17, North John-st.: *John Lucas & Son (Builders), Ltd., Eccleston-st., Prescot.

London (Air Ministry).—Contracts to value of £500 or over for week ended June 14:—General maintenance work: James Miskimmin & Sons, Ltd., Belfast; M. & F. O. Foster & Co., Ltd., Hitchin, Herts; Beric, Ltd., Epsom, Surrey. Painting work: Baxter Bros. (Newcastle), Ltd., Newcastle-on-Tyne, 1; Alfred Bagnall & Sons, Ltd., Shipley, Yorks. Structural steelwork: N. S. Bellman & Co., Ltd., London, E.C.2.

London (M.O.W.).—Contracts placed by M.O.W. for week ending June 12:—*London*: Terminus T.E., Gray's Inn-rd., W.C.2, external and internal painting, Decra, Ltd., 11, Hambury-rd., Acton; Battersea B.C.17, temporary houses, Trollope & Colls, Ltd., 41-44, Great Queen-st., London, W.C.2; Buckingham Palace, installation of high-pressure water heating, G. W. Haden & Son, Ltd., 19-29, Woburn-pl., W.C.1; Government Offices, Southern Block, Whitehall, debricking windows, Charles Griffiths, 55, Park-av., E.6; Victoria and Albert Museum, South Kensington, repair to sashes and glazing to galleries, John Mowlem & Co., 94, Ebury Bridge-rd., London, S.W.1; North Finchley, delivery and laying of asphalt and tanking, H. Fairweather & Co., 12, Gt. North-rd., Highgate, N.6; M.O.W., London Area 6A, 7 and 3, supply of sand and ballast, Godfrey (Balham), Ltd., 99-105, Moyser-rd., London, S.W.10. *Aberdeen*: Kennay Secondary School, temporary classrooms, Dee Construction Co., Ltd., 39, Claremont-st., Aberdeen. *Ayrshire*: Newton Park School, Ayr, temporary classrooms, Robert Hutchinson (Builders), Ltd., 3, Falkland Park-rd., Ayr; Public Schoo,l Annbank, temporary classrooms, James Barclay, West Langland-st., Kilmarnock. *Berks*: Head Post Office, Reading, alterations and additions to post office, McCarthy & Fitt, Ltd., Trinity-pl., Reading. *Bucks*: Tyndal House Hospital, Aylesbury, alteration to boiler house and nurses' quarters, Fleet & Roberts, 33, New-st., Aylesbury; C. of E. School, Wendover, temporary classrooms, C. & W. Montague, Ltd., 31, London-rd., Aston Clinton, Bucks. *Cornwall*: Camborne-Redruth U.D.C. III, temporary houses, J. Garrett & Son, Ltd., 34, Tavistock-rd., Plymouth. *Cumberland*: Ashley-st. School, Carlisle, additional classroom and dining-room, Irwin & Sons, Ltd., 178, Warwick-rd., Carlisle. *Derbys*: Council School, Bradwell, temporary school buildings, R. Green & Son (Chapel-en-le-Frith), Ltd., Chapel-en-le-Frith, Derbys. *Dumfriesshire*: Gretna, Tarran houses, James Barclay, West Langland-st., Kilmarnock. *Durham*: Redby Senior Boys' School, Sunderland, additional classrooms, Geo. Portens (Bldrs.), Ltd., 34, West Sunniside, Sunderland; Beats Farm, Whitburn, removal of temporary defence works, Ryan (Newcastle), Ltd., Groat House, Groat Market, Newcastle-on-Tyne. *Essex*: County High School, Harwich, additional dining-room and kitchen, F. G. Huggett & Sons, 64, Station-rd., Clacton-on-Sea; County Primary School, St. John's Green, Colchester, dining-room and scullery, H. Everett & Co., 70, Barrack-st., Colchester; County Secondary School, Drury Falls, dining-room and kitchen, E. Scott Hale, Ltd., Globe-rd., Romford, Essex; Theydon Garnon School, dining-room and kitchen, E. Scott Hale, Ltd., Globe-rd., Romford, Essex; Post Office, Southend, garage and workshop, Thos. Bates & Son, Ltd., The Old Brickworks, Romford, Essex. *Glam.*: St. Francis School, Cardiff, temporary school buildings, James Howell & Co., St. Mary's-st., Cardiff; Merthyr Tydfil C.B.4, site works and Arcon houses, Dudley Boswell & Co., Ltd., 6, Manby-st., Wolverhampton; Cardiff, telephone exchange, Gee, Walker & Slater, 100, Park-la., London. *Glouces.*: Post Office Training School, Shirehampton, Nissen huts, W. E. Chivers & Sons, Devizes, Wilts. *Hants*: No. 21 Building, R.A.E., Farnborough, removal of box gutters, J. Chuter, Ltd., 166, Lynchford-rd., Farnborough. *Herefordshire*: P. I. Centre, Much Dewchurch, temporary school buildings, Hiles & Son, Ltd. 18, Pritchard-st., Bristol, 2. *Herts*: Building Research Station, Garston, nr. Watford, installation of electrical services, Barlow & Young, Ltd., 19-21, Palace-st., Westminster; St. Albans, C.C. No. 3, aluminium houses, H. C. James, Ltd., 183, High Town-rd., Luton, Beds. *Lanarkshire*: St. Mary's R.S. School, Glasgow, temporary classrooms, L. K. Mackenzie & Partners, Ltd., 304, Cathedral-st., Glasgow; Senior Secondary School, Victoria-dr., Glasgow, temporary classrooms, Mactaggarth & Mickel, 63-65, Bath-st., Glasgow; Junior Secondary School, Adelphi-ter., Glasgow., temporary classrooms, Mactaggarth & Mickel, 63-65, Bath-st., Glasgow. *Lancs*: Risley, A.E.R.E., extension to main office block, John Lucas & Son, Ltd., 36, Eccleston-st., Prescott; Council School, Sydney-st., Lytham, classrooms and demolish A.R.P. shelters, Arnold Ingram & Sons, Crescent Saw Mills, St. Anne's-on-Sea Springfield, tarmacadam roads and paths, Constable Hart, Ltd., Daimler House, Paradise-st., Birmingham. *Lincs*: Council School, Main-rd., Wrangle, temporary school buildings, Bradshaw Bros. (Cont.), Ltd., 117a, Loughboro-rd., Leicester; Brumby Senior Boys' School, Scunthorpe, temporary school buildings, John Sheffield Construction Co., Conesby House, Scunthorpe; Magdalen College, Wainfleet, temporary school buildings, W. Geetham & Sons, Ltd., 114, Drummond-rd., Skegness.

Middlx.: Secondary Modern School, Hounslow Heath, Hounslow, temporary school buildings and demolish 4 A.R.P. shelters, Perry's (Ealing), Ltd., 75, Uxbridge-rd., Ealing, W.5. *Monmouthshire*: Pontypool U.D.C. Area, temporary houses, W. A. Davies, Ltd., Snatchwood-rd., Abersychan, Pontypool. *Northumberland*: Walker R.C. Primary School, Newcastle-on-Tyne, additional classrooms, J. W. Lowry, 50, Corporation-st., Newcastle-on-Tyne; Cambois, removal of defence works, Fewster's (Stockfield), Ltd., 10, Bridge-st., Blaydon-on-Tyne, Co. Durham; Newcastle T.O.B., supply and delivery of a public address system, General Electric Co., Magnet House, Kingsway, W.C.2. *Notts*: Middleton School, Harrow-rd., Nottingham, temporary school buildings, Pillatt & Son, Ltd., Guorn-rd., Nottingham. *Orkney*: Public School, North Walls, temporary school buildings, Orkney Builders, Ltd., Great Western-rd., Kirkwall, Orkney. *Pembrokeshire*: Ministry of National Insurance, Victoria-rd., Pembroke Dock, alterations to form accommodation, Hadsphaltic Construction Co., Co-operative-la., Albion-sq., Pembroke Dock. *Perthshire*: Lochearnhead School, Strathyre School, Balguhidden School, dining-room and kitchen, W. M. Sprunt & Co., Ltd., Inverallon-rd., Bridge of Allan. *Roxburghshire*: Parkside School, Jedburgh, temporary classrooms, Walter Bell & Son, Ltd., 34, New Bongate, Jedburgh, Roxborough. *Shropshire*: St. Mary's C. of E. School, Hospital-st., Bridgenorth, temporary school buildings, John McLean, Ltd., Coven, Wolverhampton. *Somerset*: Boat-la., Lympsham, demolish defence works, Counties Plant Co., South-parade, Bath; Tyntisfield Park Estate, Failand, removal of latrine blocks, etc., F. P. Chambers, 2, Gloucester-terr., Swindon. *Staffs*: Chell County Primary School, Stoke-on-Trent, temporary school buildings, George A. Poole, 37, Liverpool-rd., Newcastle, Staffs; County Secondary Modern School, Walsall Wood, Brownhills, temporary school buildings, Rush & Tomkins, Ltd., 270, Corporation-st., Birmingham; Springfield-rd. Senior Boys' School, Wolverhampton, temporary school buildings, E. Warren Baxter & Co., Willenhall-rd., Wolverhampton; A.T.S., Fallings Park, Wolverhampton, huts, Thos. Payne & Son, 31, Churchfield-st., Dudley. *Suffolk*: Halesworth, post office, Ames, Ltd., 1, Deneside, Gt. Yarmouth. *Sutherland*: Public School, Farr, dining-room and kitchen, K. MacRae & Co., 99a, High-st., Wick, Caithness. *Warwickshire*: Eastland Boys' and Girls' School, Rugby, temporary school buildings, Rush & Tomkins, Ltd., Gloucester House, 270, Corporation-st., Birmingham; School, Coton-end, Warwick, temporary school buildings, Coltman & Sons, Ltd., Castle-st., Coventry; Horr End-la. Secondary Modern School, Erdington, Birmingham, temporary school buildings, F. Deeley & Co., Ltd., 208, High-st., Harbourne, Birmingham, 17; Christchurch C. of E. School, Farm-rd., Sparkbrook, Birmingham, temporary school buildings, G. Green & Son, Ltd., 132, Monument-rd., Birmingham, 16. *Wigtownshire*: Public School, Glenluce, temporary school buildings, L. K. Mackenzie & Partners, 304, Cathedral-st., Glasgow; Public School, Sandhead, temporary classrooms, L. K. Mackenzie & Partners, 304, Cathedral-st., Glasgow. *Wilts*: C.D.E.S., Porton, temporary control plant, Heat & Air System, Ltd., 172, Buckingham Palace-rd., London, S.W.1. *Worcs.*: Bristnall Hall-rd. Senior School, Oldbury, temporary school buildings, Bush & Tompkins, 270, Corporation-st., Birmingham, 4. *Yorks*: Enesay-rd. School, Skipton, central kitchen, Wilson (Whitkirk), Ltd., 375, Selby-rd., Whitkirk, Leeds; St. Theresa's R.C. School, Sheffield, temporary school buildings and demolish A.R.P. shelters, W. Marlow & Sons, Ltd., Holme-la., Sheffield, 6; Crookesmoor Council School, Oxford-st. site, Sheffield, temporary school buildings, W. Marlow & Sons, Ltd., Holme-la., Sheffield, 6; South-gr. Modern School, Alma-rd., Rotherham, temporary school buildings, Neecon, Ltd., Old Sheffield-rd., Rotherham; Rawmarsh Secondary Modern School, Rotherham, temporary school buildings, Neecon, Ltd., Old Sheffield-rd., Rotherham; Boys' Modern School, Northgate, Pontefract, temporary school buildings, W. Barber, 52, Northgate, Pontefract; various schools, Leeds area, temporary school buildings, H. O. Andrews, Ltd., 408, Oakwood-la., Leeds, 8; school, Black-la., Thurnscoe, temporary school buildings, T. Jenkinson & Son, Bentley-rd., Doncaster; Clara Lady Dorman School, Dornanstown, additional classrooms, Arthur Robinson, Ltd., 423, Linthorpe-rd., Middlesbrough; Shirecliffe County School, Penrith-rd., Sheffield, temporary school buildings and demolish A.R.P. shelters, Hadden Builders, Ltd., 40, Spring-st., Sheffield; Newhall County School, Sanderson-st., Sheffield, temporary school buildings and demolish A.R.P. shelters, Hadden Builders, Ltd., 40, Spring-st., Sheffield; Hathersage C. of E. School, nr. Sheffield, temporary school buildings, R. Green & Sons, Chapel-en-le-Frith, Derbyshire; Sheffield C.B.16, temporary houses, John Holmes, Ltd., 54, Queen's-rd., Doncaster; Crookesmoor School, Oxford-st. site, Sheffield, temporary school buildings, W. Marlow & Sons, Ltd., Holme-la., Sheffield, 6; North Parade Modern School, Otley, temporary school buildings, Tom Smith (Otley), Ltd., Market-st., Otley; Walkeley School, Greaves-st., Sheffield, temporary school buildings and demolish A.R.P. shelters, Hadden (Bldrs.), Ltd., 40, Spring-st., Sheffield; Hatfield House-la. County School, Sheffield, temporary school buildings, Hadden (Bldrs.), Ltd., 40, Spring-st., Sheffield; Hillsborough R.C. School, Ripley-st., Sheffield, temporary school buildings and demolish A.R.P. shelters, Hadden (Bldrs.), Ltd., 40, Spring-st., Sheffield.

¶**London (War Dept.).**—Works contracts placed by War Dept. for week ended June 7:—*Wilts*: Miscellaneous work, Chippenham Co-operative Society, Ltd., Chippenham, Wilts.

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London, S.E.18: Roadwork, Frank Harris Bros., Ltd., Sutton, Surrey.

Lowestoft.—Further 38 houses, for T.C.: *Direct Labour, £43,453.

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Manchester.—Rebuilding warehouse at Bloom-st., for J. & J. Hadfield, Ltd.; 15, Nicholas-st. H. F. V. Newsome (A.), 36, Derby-rd., Heaton Moor, Stockport: *G. & W. Smith (Builders), Ltd., Hyde-gr., Plymouth-gr., Chorlton-upon-Medlock, Manchester 13.

March.—Houses, for U.D.C.: *T. F. Whittesley & Son, £11,796 (10); *E. S. Tinkler, Ltd., £12,357 (10).

Newcastle.—Prefabricated extensions at St. Dominic's R.C. school, Newcastle: *J. Jackson & Sons, Corporation-st., Newcastle.

Newcastle-under-Lyme.—54 houses at Bradwell, Heath-st., and Hanbridge-cres., Chesterton, Wolstanton-rd. and Moorthorne-cres., for T.C. C. B. Parkes (L.), architect, Estate Office, Bournville Village Trust, King's Norton, Birmingham 30: *R. Lawson, £5,060 (4); *Peers & Owen, Nursery-la., Stockton Brook, Stoke-on-Trent, £7,226 (6); *M. Roddy, £7,674 (6); *de Leap, Ltd., £7,811 (6); *Roberts Bros., Brockter., Basford, Stoke-on-Trent, £7,829 (6); *J. Woodward, £7,870 (6); *Hartshill Development Co., Ltd., Hartshill-rd., £12,473 (10); *J. Willis, Ivy Lea, Heath-av., £13,250 (10), rest of Newcastle-under-Lyme.

Rochdale.—County Primary Junior and Infants' school at Kirkholt estate (west), for E.C. S. H. Morgan, B.S.: *James Hobson & Sons, Ltd., 55, Newark-st., Nottingham. Steelwork: *Edward Wood & Co., Ltd., Ocean Ironworks, Trafford Park, Manchester 17 (estimated cost, £40,000).

St. Neots.—10 houses at Stow Longa and Yelling, for R.D.C.: *W. Sindall, Gloucester-st., Cambridge.

Salford.—Four-storey buildings as extensions to existing soap works, Ordsall-la., Colgate-Palmolive-Peet, Ltd. Harry S. Fairhurst & Son (FF.), architects, Chancery-bldgs., 55, Brown-st., Manchester 2: *Russell Building & Contracting Co., Ltd., 165, Plymouth-gr., Chorlton-upon-Medlock 13. Steelwork: *Redpath, Brown & Co., Ltd., Trafford Park 17 (both of Manchester).

Salisbury.—52 houses at Bemberton Heath, for City Council: *Crosby & Co., Ltd., Farnham, Surrey, £68,748.

Skipton.—12 houses at Collinge-rd., Cowling, for R.D.C. T. Yeadon, S.: *Sam Gott, Nanscar, Cowling, nr. Skipton.

South Molton.—16 houses at Station-rd. site, for Council: *E. J. Kingdom, South Molton, £25,141.

Southend-on-Sea.—36 houses at site No. 5, Eastern-ave., for C.B. B.E. & S.: *C. S. Wiggins & Sons, Hart-rd., Thundersley, Essex, £46,311.

Stockport.—Structural alterations at Taxal Lodge, Whaley Bridge, for conversion into Special School, for E.C. L. Yates (L.), Boro' E. Architect, Education Offices, Town Hall: *Z. & W. Wade (Whaley Bridge), Ltd., Buxton-rd., Whaley Bridge via Stockport, £3,979.

Tadcaster.—Eight Airey houses with outbuildings, drains, fences and paths and roads and drainage at Highfields estate. Anthony Steel & Owen (AA.), Cogan-chbrs., Bowlalley-la., Kingston-upon-Hull. Quantities by Rex Procter & Miller, F.F.S.I.: *Leonard Garbutt, Main-st., Aberford, Leeds.

Tynemouth.—114 "Orlit" houses, for T.C.: *Tarslag, Ltd., Bowesfield-la., Stockton-on-Tees (revised scheme).

Walsall.—15 houses at Green-la. site, for T.C. M. A. Habershon, B.E.: *A. J. Owens, 40, Leigh-rd., Walsall (6); *Rocksmith Builders, Aldridge, nr. Walsall (9).

Wednesbury.—Dining-room and kitchen at Walton Primary school, for E.C.: *Arjay, 15-16, Queen-st., Wolverhampton.

West Hartlepool.—12 houses at Jutland-rd., for T.C.: *Taylor & Evans, West Hartlepool.

Whitley Bay.—12 houses for U.D.C.: *A. Lisle & Sons, Promentory-ter., Whitley Bay, £13,800.

Worksop.—18 houses at Shepherds-av., for sale to T.C.: *J. H. & W. E. Ilett, 25, Hill-st., Worksop.

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